

Newsletter



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July Newsletter 2022

Welcome to the July 2022 edition of the OPTOKON newsletter. This edition features an article by Jiří Štefl, the General Director of the OPTOKON Group, on how the Group is planning for Industry 4.0 (the fourth industrial revolution) in terms of its cyber-physical transition. The implementation of Industry 4.0 is reflected in many of the articles in this edition, which include Stablenet software training at OPTOKON, the Signal Corp Conference focused on military solutions and the INFODAS workshop focusing on Secure Domain Transition (SDoT).

Staying on the same theme, we preview the new OPTOKON Elektronik rugged laptops and smartphone and the same company's new fiber optic rack solutions. There is also the English version of the recent article on the FOTAS system published in the latest edition of the Review Magazine by the Defence and Security Industry of the Czech Republic.

You can also find all our usual features including details of the forthcoming exhibitions, including a joint presentation in Italy with our partners, SAMM Teknoloji, and the ever-expanding new OPTOKON products section.

New products:

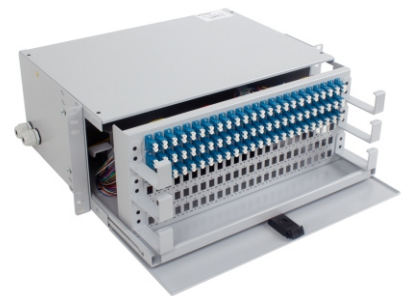
LMCP-7H

Compact, ultra-durable server



OFDU-TS4-310

Rack Mount Splice and Termination Cabinet



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Recent Exhibitions

HEMUS 2022 - INTERNATIONAL DEFENCE EQUIPMENT AND SERVICES EXHIBITION
Plovdiv, Bulgaria 1.6.2022-4.6.2022



OPTOKON Forthcoming Exhibitions

ECOC 2022

Congress Center Basel
Messeplatz 21, CH-4058 Basel, Switzerland
19.9.22 - 21.9.22
OPTOKON Stand No: 163

OIL AND GAS AUTOMATION AND DIGITALIZATION CONGRESS 2022

Hotel UNA Expo Fiera Milano, Milan, Italy
17.10.22-18.10.22

The OPTOKON and SAMM Teknoloji Alliance is a strong technical partnership emerging on the market with a new generation of security monitoring systems. The two companies will be presenting their products together at this congress.

SAHA EXPO DEFENSE AND AEROSPACE EXHIBITION

Istanbul Exhibition Centre
Istanbul, Turkey
25.10.22-28.10.22
OPTOKON Stand: HALL 2 / 2C-24

Company News

Industry 4.0 refers to the fourth industrial revolution, which is the cyber-physical transformation of manufacturing. In the following article, Jiří Štefl, the General Director of the OPTOKON Group, explains how the OPTOKON Group is transitioning towards this process.

Necessary Steps for the Sustainability of Our Company - Jiří Štefl

We need our company to move to a higher quality level. First and foremost, this requires significantly more production with higher added value, trying to find new markets and at the same time changing our business approach to the newly built key foreign subsidiaries in Saudi Arabia, Turkey and Malaysia.

Our company is gradually moving further and further away from the nearby markets. Building a significant market share in non-European countries after success with our first order is the most challenging. It takes many years, and the prerequisites for success are, above all, substantial capital and perseverance. The situation is also made more difficult by the fact that globalization, as we have known it in recent decades, may be coming to an end and free trade will no longer work nearly as smoothly. However, at the same time, the world is vast, and the world markets have enormous capacity. I do not doubt that there will always be many countries outside the European Union that have similar attitudes and values, as well as large and promising markets.

Our company, OPTOKON, has expanded its scope from being just a manufacturer of fiber optic connectors to a manufacturer of a wide range of products related to the communication and transmission of signals through fibre optic cables and cables, and finally to electronic elements of transmission networks. Similarly, within our OPTOKON Group, we are completing the newly built DATA CENTRE VYSOČINA providing relevant data centre services.

Taking into account the above-mentioned characteristics of Industry 4.0, the company works in the field of system integration by integrating both production and non-production processes into a single set of sub-processes of the corporate system. In terms of Big Data, the company uses a data warehouse created at Optonet, which is part of the OPTOKON Group. A number of programs work on top of the data warehouse to transform the data into the necessary information. In terms of autonomous robots, the company cannot yet introduce robotic workstations for production operations due to the more complex technology of manufacturing optical passive components, which requires human labour. However, the company is making improvements to these processes through the introduction of semi-automatics. Automated single-purpose production lines without robots are used for the production of optical cables at OPTOKON Kable, which is also part of the OPTOKON Group. The company has built a communication structure for communication in production processes as well as in non-production processes. It uses the disk array of the company's server as data storage as well as a data warehouse in the cloud data center. As far as autonomous production is concerned, the company is implementing additive manufacturing by printing some parts on 3D printers. Augmented reality is not yet used. Sensors are in the company's production and testing facilities and the company also uses them in its own products (measuring instruments, security fiber optic cables). The company has also developed products designed to incorporate artificial intelligence resources.

The principles and characteristics of Industry 4.0 are used by the company in a wide range of its activities and manufactured products. The company naturally has a vision to continuously improve its processes and innovate existing products and develop new products as part of its innovation processes. For the near future, the company has set the following strategy for Industry 4.0, which is the digitization of development and production data. The current priority is to quickly implement and launch the digitization system of our products not only in the Czech Republic but also in our three foreign subsidiaries. OPTOKON is currently investing heavily in a corporate system that focuses on logistics, cyber security, artificial intelligence elements and the introduction of QR codes across our entire production.


Another key area of our strategy is to expand our testing and metrology services business. The global metrology services market for 2022-2026 is poised to see growth at a CAGR (Compound Annual Growth Rate) of USD 934.65 Mn from 2010-2026 and USD 1.6 billion at a CAGR of 14.67% during the forecast period.

In line with this trend, our company concluded another strategic contract with the largest calibration laboratory in Malaysia, SIRIM Standards Technology Sdn. Bhd. (SST). SST is an ISO 17025 certified lab that offers a one stop center providing a comprehensive and diverse range of calibration and measurement services.

Company News

SST accredited laboratories in Malaysia are located in Selangor, Johor, Pulau Pinang (Penang), Pahang and Sarawak. On this occasion, we are moving our headquarters of the OPTOKON Malaysia Calibration Laboratory to the city of Penang - to the headquarters of SIRIM. On the basis of the signed contract, OPTOKON Malaysia and SIRIM will jointly unify calibration services, address customers uniformly - and most importantly, by connecting the companies, offer an entire range of calibration services including RF calibration and all types of electrical, mechanical and temperature tests. Below is a breakdown of the RF exams offered:

OUR SCOPE OF CALIBRATION / VERIFICATION SERVICES

ELECTRICAL	RADIO FREQUENCY
	<p style="color: #003366; font-weight: bold;">Environmentally controlled Radio Frequency Standards Laboratory capable to generate up to 40 GHz and measure signals up to 50 GHz</p>
<ul style="list-style-type: none"> <li style="width: 50%; margin-right: 50%;">• Digital Multimeters <li style="width: 50%;">• High Voltage Meters <li style="width: 50%; margin-right: 50%;">• Clamp meters <li style="width: 50%;">• Calibrators <li style="width: 50%; margin-right: 50%;">• Oscilloscopes <li style="width: 50%;">• RCD/ RCCB Testers <li style="width: 50%; margin-right: 50%;">• Frequency Meters <li style="width: 50%;">• Process Meters <li style="width: 50%; margin-right: 50%;">• Insulation Testers <li style="width: 50%;">• Resistance Meters <li style="width: 50%; margin-right: 50%;">• LCR Meters <li style="width: 50%;">• Acoustic & Vibration 	<ul style="list-style-type: none"> <li style="width: 50%; margin-right: 50%;">• Noise Source <li style="width: 50%;">• Attenuator <li style="width: 50%; margin-right: 50%;">• Power Meter <li style="width: 50%;">• Bluetooth Tester <li style="width: 50%; margin-right: 50%;">• Power Sensors/ Sensor Modules <li style="width: 50%;">• Calibration Kit <li style="width: 50%; margin-right: 50%;">• Power Splitter <li style="width: 50%;">• Crystal Detector <li style="width: 50%; margin-right: 50%;">• RF Amplifier <li style="width: 50%;">• Directional Coupler <li style="width: 50%; margin-right: 50%;">• Rf Communication Analyzer <li style="width: 50%;">• High Frequency Probe/ RF Detector <li style="width: 50%; margin-right: 50%;">• Radio Test Set <li style="width: 50%;">• Low Pass Filter <li style="width: 50%; margin-right: 50%;">• Signal Conditioning Unit <li style="width: 50%;">• Matching Pad <li style="width: 50%; margin-right: 50%;">• Signal Generator <li style="width: 50%;">• Microwave Pre-amplifier <li style="width: 50%; margin-right: 50%;">• Spectrum Analyzer <li style="width: 50%;">• Modulation Domain Analyzer <li style="width: 50%; margin-right: 50%;">• Synthesizer Sweepers <li style="width: 50%;">• Network Analyzer <li style="width: 50%; margin-right: 50%;">• Telegraph test Set <li style="width: 50%;">• Noise Figure Analyzer <li style="width: 50%; margin-right: 50%;">• Thermistor Mount <li style="width: 50%;">• Transient limiter

Signal Corps 2022

The Signal Corps 2022 conference was held at the Lipník nad Bečvou military training ground from the 15th - 16th of June. The conference focused on solutions to current security challenges and the provisioning of communication systems in the main modernization projects of the Army of the Czech Republic. OPTOKON was one of the conference partners.

The representatives from OPTOKON presented the comprehensive military portfolio, mainly based on the LMCP land mobile computing platform newly equipped with GSM and GPS modules and Cisco-based military and ruggedized switches and routers. One of the key features was the introduction of the OPTA ruggedized platform designed for AI (artificial intelligence) based applications and services. The newly introduced FOTAS system offering perimeter security using an optical cable generated great interest. The system was presented with a live demonstration of the security of the command-and-control point. Almost 300 experts ranging from the armies of the Czech and Slovak Republics, the Ministry of Defense and Interior of the Czech Republic, the Military University in Brno and the commercial segment participated in this conference.

Company News



OPTOKON present Perimeter Security system FOTAS



OPTOKON ruggedized phone LMIPT installed in TITUS



OPTOKON ruggedized converters LMC in Pandur



OPTOKON ruggedized converters LMC in Pandur

INFODAS presentation for the Czech Army – Secure Domain Transition (SDoT)



On 25 May, a workshop on "Multidomain security solutions with EU and NATO accreditation for government, critical infrastructure, armed and security forces" was held in Jihlava, at the premises of OPTOKON.

The workshop focused on Secure Domain Transition (SDoT) from the INFODAS company and on SDOT-based solutions - security solutions across multidomain networks for government and state sector, defense and security sector clients.

Company News

One of the typical solutions discussed at the workshop was sending messages with varying degrees of secret classification to other classified networks. This solution enables, for instance, to extend the range of command-and-control applications as well as to build a unified management and supervision system above multidomain networks.

The representatives of the armed and security forces participated in this workshop along with representatives of OPTOKON, which is an INFODAS partner for the Czech Republic.



STABLENET Software Training - Administration and management of SNMP systems

In April, training of representatives of the OPTOKON Group companies was held on the theme of "Administration and management of SNMP systems".

Twelve technicians and business development staff of the OPTOKON Group companies participated in this workshop. In addition to the training, there was also a discussion focused on customer solutions. These solutions included the implementation of the light SNMP management system into the LMCP platform and the management of large (both stationary and operational-tactical) military networks and a provisioning NOC (Network Operation Center) as a service for the newly built Data Center Vysočina.

OPTOKON is a partner of INFOSIM, which manufactures the STABLENET (Automated Network & Service Management Software) SNMP platform. The OPTOKON Group has trained staff for network management and supervision as well as for the development of complementary applications (for instance, customized GUI) based exclusively on the STABLENET platform.



Company News

Defense and Security Industry Review Magazine

The media platform for the Defense and Security Industry of the Czech Republic recently issued the second "Review" magazine of 2022. This latest edition features the OPTOKON LMCP-7H server, which is deployed in OPTOKON FOTAS, the fiber-optic based security system. The online edition currently features the article by the Technical Director of OPTOKON, Pavel Pospichal in Czech only although the English translation of the article is reproduced below.



for Defence and Security Industry
Review
 2/2022 | online | www.msline.cz | The Media Platform of the Defence and Security Industry Association of the Czech Republic | DSIA

OPTTA-PP62X
 Land Mobile Graphics Processing Computing Platform
 - 2x Intel® Xeon® Silver 4316 @ 2.30 GHz
 - Up to 4 TB DDR4 RAM
 - Up to 8 removable SSD
 - 2x 1G Ethernet routed ports
 - nVidia graphics card RTX™ A4000

LMCP-7H
 Compact, ultra-durable server
 - Intel® Xeon® Processor
 - Up to 64 GB DDR4
 - Up to 6x 1G routed server ports
 - USB, RS-232/422/485, CANbus

Artificial intelligence (AI)
 coming in high performance fully rugged mission computer

OPTOKON NATO supplier code: 1583G
 WWW.OPTOKON.COM

FOTAS - FIBER OPTIC-BASED SECURITY SYSTEM Optical fiber-based distributed sensor

OPTOKON FOTAS is technology based on analyzing signals in a fiber optic cable, which changes the characteristics based on the vibration in its area. One segment of this technology is capable of detecting noise and vibration at distances of up to 100 km.

Large perimeter protection

- e.g., state borders, airport areas, military bases, drinking water sources, railroads, highways, pipelines, etc.

Detection of failure and sabotage on long lines:

- gas and oil pipelines, EHV lines, railroads, highways.

Monitoring the movement of vehicles along the sensor cable

- e.g., determining the position of a train in real-time.

Unusual situation detection

- events such as an emergency brake used on a train, an accident on a highway, or detection of traffic jams.

Company News

Main features – Detect-Prevent-Respond:

- Control of large areas
- Electronic or power failure in the field
- Manual adjustment of the settings for each detection zone
- All major components are duplicated with the implementation of continuous self-testing
- Detects any activity in the protected area
- The system is insensitive to electromagnetic fields

ADVANTAGES:

- **Easy to install:** lay the cable in a trench or along a fence
- **Does not need any special cable** as the sensing element is a conventional single-mode fiber optic cable – however, **better results might be achieved using a special type of cable**, designed solely for monitoring purposes
- **Does not require cutting the cable**, the installation of joints, or the welding of fibers in each detection zone
- **Option to use an underground cable sensor in any type of soil**
- **Does not require powerwiring along the perimeter** of the protected area

FOTAS is an acoustic sensor based on fiber optic infrastructure that can be easily distributed in various terrains. FOTAS keeps fences and borders secure and sends early threat warnings. Laser beams emitted by the laser source travel the entire system providing information while flowing through the fiber optic cable. Laser beams coming back to FOTAS are analyzed by computer software. Noises and unrelated data are eliminated through the software. Finally, FOTAS AI classifies the alarms.

Actions that create vibration can be watched live on the system. Noisy areas can be isolated and deactivated at the request of the user. All alarms are received and reported over the web interface, which can be stored and exported. FOTAS is a proven early warning security system that can detect third-party intervention, illegal crossing attempts and unauthorized excavations along a line spanning several to thousands of kilometers.

The FOTAS fiber monitoring system includes several devices, single or dual channels, and is designed for various cable lengths:

Models	Single Channel				Dual Channel			
	SF-5	SF-10	SF-30	SL-50	DF-5	DF-10	DF-30	DL-50
Detection distance	5 km	10 km	30 km	50 km	Dual 5 km Single 10 km	Dual 10 km Single 20 km	Dual 30 km Single 60 km	Dual 50 km Single 100 km
Position Accuracy	4 m		10 m		4 m		10 m	
Number of Channels	1 fiber per device				2 fibers per device			

OPTTA:

The device operates on the principle of a distributed fiber sensor and can detect violations and signals caused by mechanical and acoustic affecting the fiber optic cable.

All these signals are transmitted to the control center where they are evaluated for whether they are harmless due to meteorological phenomena, such as wind, rain, or natural interventions caused by animals or if they are a direct disturbance of the monitored object or perimeter.

A powerful computer platform is required for these and similar applications as large data processing and evaluation, image recognition and various types of signals are involved.

For field use, mobile devices also need to be resistant to various climatic and mechanical influences.

The OPTOKON OPTTA-PP62X high-performance computing platform is designed for processing large amounts of data:

Company News

The OPTTA-PP62X is a fully ruggedized mission computer for state-of-the-art combat vehicles and field communication nodes. It features a state-of-the-art Intel® Xeon® Scalable Processor CPU and NVIDIA® GPU high-performance parallel processing, HD full-motion video capture and encoding, and complete sensor integration and data fusion. The OPTTA-PP62X provides unparalleled capability in a SWaP-optimized system.

The OPTTA-PP62X integrates maximum computing and networking throughput and enables deep learning and artificial intelligence capability through the use of neural networks. OPTOKON's advanced thermal management engineering ensures survival in extreme operating conditions.

The OPTTA-PP62X is a fully ruggedized system, built to exceed the harshest military specifications including shock and vibration, dust and water ingress, and EMI/EMC.

All these parameters predetermine the OPTTA device for solving AI – artificial intelligence tasks, deployment in C4ISR / EB systems - battlefield digitization.

The digitization of the battlefield is the current trend in the development of advanced armies, especially those of NATO member states. The digitization of the battlefield interconnects weapons that are implemented based on computer-controlled systems.

The OPTTA-PP62X is a high-performance platform with parameters that require corresponding ruggedized housing of sufficient size to be able to accommodate the required hardware.

Not all artificial intelligence requirements for deployment in C4ISR / EB systems – battlefield digitization – require the top parameters of the computer platform. Especially at lower levels of headquarters or in mobile vehicles, where it is necessary to consider limited space, less powerful HW can be used in a smaller version, but with a higher degree of protection against climatic and mechanical influences.

In such cases, the deployment of the newly developed LMCP-7H server can be expected. Even while maintaining a sufficient level of performance, the LMCP-7H is a highly compact, durable, small platform optimized for installation in mobile devices

The compact ultra-durable OPTOKON LMCP-7H server is equipped with an Intel® Xeon® CPU, removable SSD disc and 6 Gigabit Ethernet ports. The LMCP-7H supports up to 64 GB of DDR4 memory, resulting in a reduction in overall power consumption compared to DDR3-based servers.

The LMCP-7H provides military-grade features in ruggedized housing making it the ideal platform for applications in harsh and rugged environments. The LMCP-7H can operate in harsh environments in temperatures from -32 °C to 75 °C and is sealed against dust and debris. Our ruggedized Line stands up to shock, vibration and extreme temperatures.



Company News

OPTOKON Elektronik New rugged laptop and IP phone series

A standard laptop, tablet or smartphone can easily be damaged during everyday use and particularly when working in harsh environments. Having a laptop that can withstand damage allows you to keep on computing even after it takes a fall or a knock or two, while a lightweight thin laptop or tablet can easily break and stop working – usually when it is most needed. This is why rugged products make an ideal purchase for military use, working in the field or inspecting hazardous environments.

In the last newsletter, we featured two of the new rugged products available from our Turkish facility. These were the OPTOKON Elektronik OERN-13 laptop and the OERT-13 rugged tablet. The range is now being expanded with the OERN-14 rugged laptop and the IP OERH 6.4 rugged handheld phone to make sure you are connected when you need it the most.



[OPTOKON Elektronik Rugged Notebook OERH-13L datasheet can be downloaded here.](#)

[OPTOKON Elektronik Rugged Notebook OERH-14L datasheet can be downloaded here.](#)

[IP OPTOKON Elektronik Rugged Handheld / Phone IP OERH-6.4 datasheet can be downloaded here.](#)

The following article provides an overview of the new OPTOKON Elektronik Rack Solution. The full catalogue is available for download, and you can find the link at the bottom of the article.

OPTOKON Elektronik RACK SOLUTION

Optical racks are vital management tools for data centers and outdoor use and are comprised of cabinets or frames created for the express purpose of housing and protecting data center equipment such as routers, servers, and switches. There are a variety of types of racks, each designed for specific applications. Well-designed racks are well-suited to the particular application and provide sufficient cable and patchcord management. Before purchasing, the customer must consider a range of additional features when selecting the appropriate rack for their locations.

OPTOKON Elektronik offers a wide range of outdoor cabinets, floor-standing cabinets, 19" frames and free-standing rack cabinets. The basic cabinet types can be classed into four variants.

Company News

19" Floor Standing Cabinets

Floor standing racks are the most commonly pictured type. These racks sit directly on the floor. They can be arranged along the wall or in aisles, depending on the specific requirements and the size of the room. They benefit from easy installation as they are generally shipped fully assembled, so the only requirement is to put them in place before loading them with equipment.

Wall Mount Cabinets

If a full-length floor rack is not required or other equipment or inventory is taking up the necessary floor space, a wall mount rack provides an excellent solution. These racks attach directly to the wall of the room and hang like cabinets. They have the advantage that they are the right size for smaller applications and do not take up precious floor space.

IP55 Outdoor Cabinets

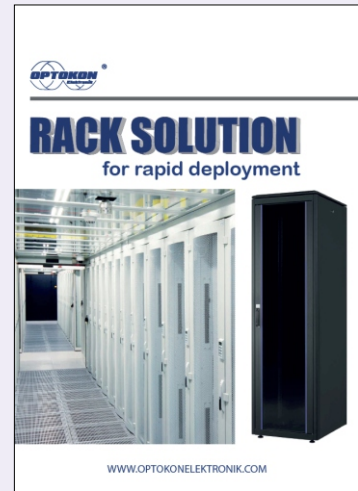
Outdoor enclosures provide maximum protection against environmental factors, vandalism, EMC and extreme weather conditions. Outdoor cabinets are used wherever maximum protection is a must. The cabinets are based on IP55 safety class and protected against penetration from water, dust and dirt.

Open Frame

Open frame racks can be floor-standing or wall-mounted and have several unique advantages. First, they tend to be less expensive than enclosed racks due to lower material costs. In addition, they feature quick installation, unrestricted airflow, easy access to equipment and cabling, and generally more effective cable management. A key disadvantage is the lack of security. Rather than housing in a locked cabinet, open frame racks are open to the room.

The RACK SOLUTION catalogue can be downloaded [here](#)

The TERMINATION BOXES catalogue can be downloaded [here](#)

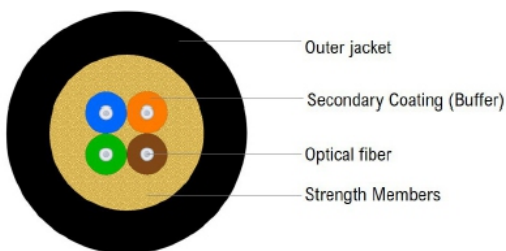


In the final article of this newsletter, Petr Tyráček from OPTOKON Kable explains how the company's innovation processes lead to greater customer satisfaction.

Tactical cables

OPTOKON Kable works to continually improve its products through its innovation processes. Customer satisfaction for a higher standard of cable is the aim of the company.

The latest innovation concerns one of the OPTOKON KABLE tactical cables the OPK-U-DSTTAC-4(4x0.9)A9AAU, see the figure below:



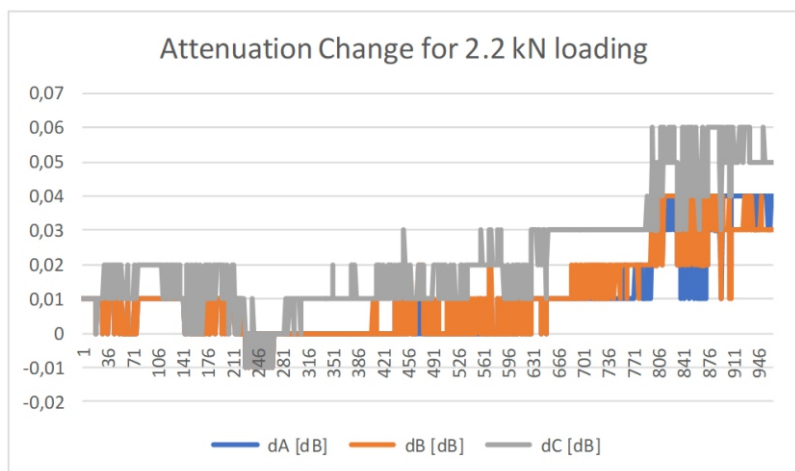
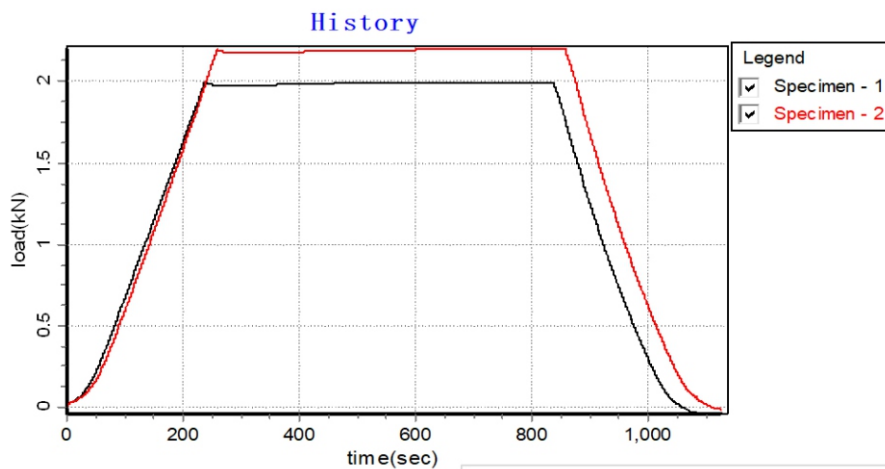
Company News

You can see the parameter comparison of the previous cable design and the innovative cable design in the next column:

	Previous design	Innovative design
	Acrylate secondary coating	Polyamide secondary coating
Number of fibers	4	4
Cable diameter	5.6 mm	5.3 mm
Tensile loading Short-term/Longterm	1800 N / 500 N	2200 N / 700 N
Compressive loading	4500 N/10cm	5000 N/10cm
Impact loading	2.5 Nm	20 Nm
Operating temperatures	-55 °C ~ +85 °C

The innovation is based on the new Polyimide 12 material for the secondary coating. The optical fibres in the innovative cable receive better protection against mechanical and climatic operating conditions by using the Polyimide 12 material. This particular cable has been tested and certified in line with the standard IEC 60794-1. The following graphs show the short tensile loading test and the cyclic climatic (operating temperatures) test results. The change attenuation in the dB of three optical fibres within the innovative cable has been measured. The military requirement (the limit level) for the change attenuation during the mechanical and climatic tests is 0.2 dB.

Short tensile load test:



New Products

LMCP-7H Compact, ultra-durable server

Intel® Xeon® Processor, Up to 64 GB DDR4
Up to 6x1G routed server ports, USB, RS-232/422/485, CANbus

The OPTOKON compact ultra-durable server LMCP-7H is now updated with an optional GSM-GPS module. The LMCP-7H supports up to 64 GB of DDR4 memory, resulting in a reduction in overall power consumption compared to DDR3-based servers. The LMCP-7H offers military-grade features in rugged housing making it an ideal platform for applications in harsh and rugged environments where it can operate in a temperature range from -32 to 75 °C.

[The datasheet can be downloaded here.](#)



FCON series 2-12 fiber rugged field ferrule connector-patchcord

OPTOKON FCON field fiber optic connectors are designed for military field cables. The neutral bayonet locking structure enables quick and arbitrary connection of the head and the seat the head and the head, and the seat and the seat. It has a multi core one-time connection and can be blindly inserted; it has small connection loss and high reliability; it is strong, waterproof dustproof and resistant to harsh environments. Perfect for use in military optical fiber communication networks, military computer systems, airborne and shipborne equipment, repair systems, etc.

[The datasheet can be downloaded here.](#)



OFDU-TS4-310 Rack Mount Splice and Termination Cabinet

The OFDU-TS4-310 cabinet is based on universal optical distribution frames and is ideal for indoor fiber optic cable connection storage, distribution and management. The rack-mount Fiber Optic Distribution Frame provides splicing and termination within one convenient housing unit and terminates up to 288 fibers in a 4U distribution frame.

[The datasheet can be downloaded here.](#)



MOT-500 Mini OTDR series

MOT-500 series Optical Time Domain Reflectometer (OTDR) is an intelligent meter of a new generation for the detection of fiber communications systems. With the popularization of optical network installed in cities and countryside's, the measurement of optical network becomes short and disperses; MOT-500 is specially designed for that kind of application. It's economic, having outstanding performance.

[The datasheet can be downloaded here.](#)



New Products

OSC-800 Single Fiber Fusion Splicer

The OPTOKON OSC-800 is an automatic mini fusion splicer for SM, MM, DS, NZ-DS (G655), EDF and other fibers that ensures high-quality splicing even in the most unfavorable environmental conditions. The OSC-800 splicer is suitable for core or cladding alignment. Using one of these methods, the two cleaved fibers are automatically aligned by the fusion splicer in the X, Y plane, and then fused together. The bare fiber area is protected by recoating or with a splice protector.

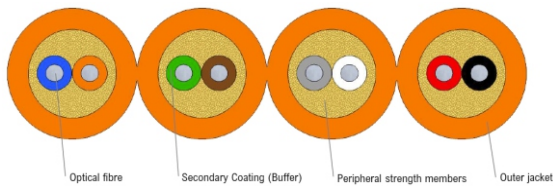
[The datasheet can be downloaded here.](#)



OPTOKON KABLE new products

Quad-duplex Cable

The new quad-duplex cable is designed for indoor general use and is ideal for patchcords, office LAN connections and point-to-point interconnection. The cable has a 4x2 fiber count, a 0.9mm buffer diameter and a halogen-free flame retardant jacket.

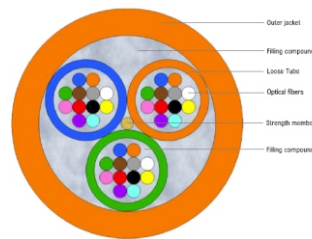


[The datasheet can be downloaded here.](#)

Outdoor Multi-tube Micro Cable36F (3RD)

The new outdoor multi-tube cable is designed for external installation using the air-blowing technique. The loose-tube cable uses G.657.A1200µm fiber, has a gel-Filled PBT buffer tube, a low-viscosity filling compound, and low friction plastic outer jacket with a thickness of 0.4mm.

[The datasheet can be downloaded here.](#)



Outdoor Multi-tube Micro Cable144F (RD)

This tube gel-filled PBT buffer tube is designed for external installation using the air-blowing technique and uses G.657.A1 200µm fiber. The cable has 1 x ripcord under the outer jacket, which has a thickness of 0.4mm.

[The datasheet can be downloaded here.](#)

