

# Newsletter



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## APRIL Newsletter 2023

Welcome to the April 2023 edition of the OPTOKON newsletter. The latest updates include a focus on one of our key strategies cooperation.

OPTOKON collaborates with the Czech Technical University in Prague (ČVUT) and the Jihlava Polytechnical University on innovative projects funded by the Technology Agency of the Czech Republic (TA CR).

Moreover, we are pleased to share a recent article on OPTOKON that was published in one of the oldest and most prestigious trade magazines "Practical Electronic - Amatérské Radio" in the Czech and Slovak markets. We are grateful for this recognition of our hard work and dedication to the industry. In addition, we have some exciting news to share about our product warranties with the introduction of 25-year and lifetime warranties for our cables and patchcords. This move reaffirms our commitment to providing the best quality products and services to our customers.

There is an extensive range of new products released in the last quarter along with details of recent and forthcoming exhibitions where OPTOKON products will be on display and available for demonstration.

We are excited to announce that OPTOKON is coming to the market with the patented Easy Link system, an innovative optical outlet that provides a universal solution for FTTH installations. It has been designed to be easily installed in existing buildings, making it the perfect choice for anyone seeking to improve their internet connectivity without the need for major renovations. For further information on Easy Link, please see page 11.

As you may already know, our product portfolio includes the OPTOKON DOS cable system, which is under development and will revolutionize data center cabling. A further addition to the OPTOKON portfolio is the Easy Link System, another stride towards providing our customers with top-of-the-line products that deliver unmatched performance and reliability.

As always, we appreciate your interest and support in OPTOKON. We hope you enjoy reading this edition of our newsletter and look forward to your continuing support.

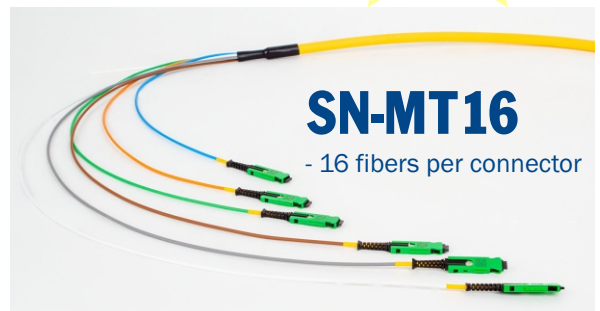
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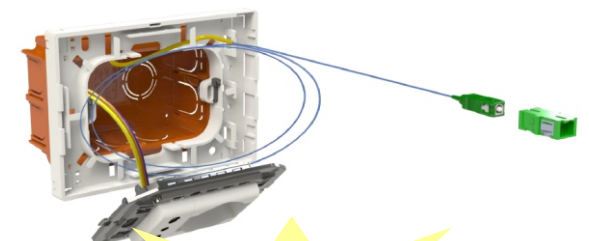
### New products: Pre terminated Trunk cables for DOS system

DATA CENTER  
**DOS**<sup>®</sup>  
OPTOKON SYSTEM

The highest  
density in the world



### Easy Link



A new, modern system  
for installing FTTH



## Recent Exhibitions

### **CABLEXX 2023**

15-16.3.2023, Cairo, Egypt



At the CABLEXX 2023 conference and exhibition in Cairo, Egypt, the CEO of OPTOKON unveiled the cutting-edge OPTOKON DOS - "Data Center Cabling System" to the audience. This innovative system is specifically designed for data centers and utilizes multi-fiber connector technology. The DOS - SN-MT16 cabling system boasts state-of-the-art multi-fiber connectors SN-MT16, which can terminate up to 16 fiber cables in a single connector. By utilizing trunk cables with these connectors, the need for splicing in optical cabinets is eliminated, resulting in faster installation and increased system modularity.



Brno, 9.3.2023, Czech Republic  
Seminář sítě FTTx v roce 2023 a Mistrovství světa v mikrotrubičkování  
Čichnova 23, Brno, Česká republika



## OPTOKON Forthcoming Exhibitions

### **IDEF International Defense Industry Fair**

25.7. - 28.7. 2023

Tüyap İstanbul Fair and Congress Center  
Istanbul, Turkey

OPTOKON: Hall: 11A, Stand: 11A-44B

### **Security Exhibition + Conference 2023**

30.8. - 1.9. 2023

International Convention & Exhibition Centre  
14 Darling Drive, Sydney, Australia

### **ECOC 2023**

2.10. - 4.10. 2023

SEC, Glasgow, Scotland Stand 744

### **EDEX 2023**

4.12. - 7.12. 2023

Egypt International Exhibition Centre  
El/Moshir Tantawy Axis,  
Cario Governate 4440301, Egypt

# Company News

## **OPTOKON collaborates with the Czech Technical University in Prague (ČVUT) and the Jihlava Polytechnical University on innovative projects funded by the Technology Agency of the Czech Republic (TA CR).**

The Technology Agency of the Czech Republic is a state organizational unit that was founded in 2009 by Act No. 130/2002 Coll. on the support of research, experimental development and innovation. The creation of TA CR is one of the cornerstones of the fundamental reforms in research and development (R&D) in the Czech Republic. The key feature of the reform is the redistribution of financial support from the national budget. The Technology Agency of the Czech Republic simplifies the state support of applied research and experimental development which has been fragmented and implemented by many bodies before the reform.



OPTOKON is currently engaged in various innovative projects. These projects are being carried out in conjunction with two prestigious academic institutions in the Czech Republic, namely the Czech Technical University in Prague (ČVUT) and Jihlava Polytechnical University.

Overall, these collaborations between OPTOKON, Czech Technical University in Prague (ČVUT), and Jihlava Polytechnical University are expected to yield significant advances in the field of optical communication technology, which could have far-reaching implications for various industries that rely on these solutions.

## **Article in Pratická Elektronika (Practical Electronics) Magazine**



Pratická Elektronika (Practical Electronics) is a magazine that has been around in the Czech and Slovak republics since 1952 and has earned recognition from industry experts. The magazine can be found in newsagents and bookstores and caters to a diverse group of individuals interested in electronics and radio engineering, including beginners, advanced enthusiasts, and professional developers. Its content is appreciated by those involved in these fields at all levels of expertise. The most recent

issue of the magazine highlighted an article about OPTOKON, with a specific emphasis on communication modules and cyber security. The complete article has been included in its entirety.



OPTOKON EMC Testing Chamber

# Company News

## Current trends in cyberspace create exciting job perspectives for future generations of IT and communication professionals

The cyber world is a fundamental phenomenon of the time. A new space in which we spend more and more time in our work and private life. For most users, it is a world full of entertainment, multimedia communication and education. For technical professions, it is undoubtedly a world full of the interplay between powerful technologies, applications, and services; a world of modern trends and future technical, technological, and security challenges.

OPTOKON, a.s. is a company that is not only aware of the huge boom in communication and information systems and cyberspace but also co-creates a stable and permanent perspective environment for its construction. "We are building the future of our company by expanding our capacity and the competence of our employees, but at the same time we perceive an increasing need to strengthen partnerships at various levels with other companies and customers, both nationally and internationally", says Ing. Jiří Štefl, the general director of the OPTOKON Group while adding "Mastering current and future technological and security challenges is impossible without synergy and cooperation".



OptoNet training center

One of the basic pillars of OPTOKON is the development and production of custom-made components for the construction of communication and information modules, which are then deployed to fulfil the needs of the Joint Forces of the Army of the Czech Republic. A key element of the company's portfolio is the ruggedized LMCP (Land Mobile Computing Platform). Within the framework of the final deployment, this forms the imaginary heart of the command and control location or the system of armored or combat vehicles. This massively powerful server is supplemented with a switch for the complete service of all connected ICT components.

Besides its robustness and performance, it is also secure. For example, the device is equipped with a delete button so that all data from the disks can be deleted before any misuse by an adversary. The basic functions of LMCP also include powerful software equipment, virtualization, operating systems and a central monitoring and diagnostics system. It is intended not only for the own platform but also for monitoring and diagnosing other ICT components in the network. The system can also be used by users from the army who are not experts in communication and information systems. Even these users can check the functionality of the network at any time and rectify any errors using the given procedures. In the basic view, the system will show the floor plan of the asset in which the system is installed, for example, a military vehicle. The operator is informed about the error and its location in the given component in the vehicle and thus speeds up the resolution.

## Company News

**TEMPERATURE RANGE -40 TO +85 °C**  
**UPLINK 10/25 GBPS**

**The most powerful LMCP**

**LMCP-28H-NGe2**  
 Light Mobile Computing Platform

- Intel® Xeon® processor
- **Up to 256 GB RAM ECC DDR4**
- 2x removable SSD 2.5 inch, RAID 0,1
- Wide operating temperature range: **-40 to +85°C**
- **Uplink 10/25 Gbps**

**LMCP-7H**  
 Compact, ultra-durable server

- Intel® Xeon® Processor
- **Up to 64 GB DDR4**
- Wide operating temperature range: **-32 to +75 °C**

**LMCP-28H-NGe1**  
 Compact, ultra-durable server

- Intel® Xeon® processor
- **Up to 64 GB RAM ECC DDR4**
- 2x removable SSD 2.5 inch, RAID 0,1
- Wide operating temperature range: **-40 to +85°C**
- **Uplink 1/10 Gbps**

In addition to the LMCP product, the company's product portfolio also includes ruggedized telephones, switches and routers, which are manufactured on the Cisco Systems platform. "We became a Cisco Solution Technology Integrator. This partnership, which is unique in the Czech Republic, allows us to manufacture our own products using Cisco Systems components and deliver them to customers all over the world", says the director of the ICT division, Ing. Tomáš Müller, "there is also interest in these products abroad and they are moving us into the position of a top global supplier of these devices".

OPTOKON, a.s. also operates in the area of cyber security and extensively collaborates with many leading cyber security manufacturers and companies. The company's products include effective tools for detecting cyber incidents, which can generate security reports for use in the planning and evaluation of military operations.

The common denominator of secure solutions built on the OPTOKON platform is automation or early detection of an operational or cyber incident and automatic and immediate response. "Therefore, we are moving our systems to the maximum level of unattended operation," adds Ing. Tomas Müller.

## Company News



Another interesting branch of security, in addition to operational and cyber security, is information security where OPTOKON is a supplier of security gates that connect different networks with different levels of confidentiality. The gateways can recognize the security level of the given information and route it safely and securely to the addressee. "We are responding to the increasing needs of customers for the transfer of information between different security domains and thus creating a basic environment for the transfer of various types of security across networks", says Ing. Jiří Štefl.

Among the main trends and challenges of cyberspace is artificial intelligence. Therefore, the development department of OPTOKON has recently incorporated machine learning hardware support into its product portfolio. "Our company's server products can run applications and services using elements of artificial intelligence. This increases the future use of our portfolio", concludes Ing. Jiří Štefl "Since last year, our portfolio has also included the OPTTA product, which is designed for machine learning directly in the field environment. This will enable the introduction of completely new, not only security applications and services, for the Joint Forces and users from the Army of the Czech Republic".

And it is the OPTTA product that can be used as part of the so-called FOTAS system, which, based on the detection of disturbances along the perimeter, for example, a large outdoor area secured by an optical cable, registers even the slightest movement. The fundamental advantage is that, unlike a camera system, there is no need to power active elements as the system does not emit anything and cannot be detected. It is ideal for perimeter protection solutions where the dimensions of the units can reach dozens of kilometers.

A key building block in the development of OPTOKON is cooperation and synergy. Cooperation with partners and customers is vital as well as with the young future generation. The company offers a whole range of collaborations with high schools and universities, as well as opportunities to involve students during their studies. This enables them to acquire their first experience and a relationship with ICT and cyberspace from the perspective of a future technician, expert, and communicator. "You don't need any fundamental skills at the beginning, the desire to work by yourself, learn new things, overcome current challenges and not be afraid of future ones is much more important", says Ing. Tomáš Müller, director of the ICT division of OPTOKON. At the same time, building a relationship with the field is a fundamental prerequisite.

# Company News



## The first data center in the Czech Republic to detect security violations using optical cable and FOTAS equipment.

The Army of the Czech Republic also needs new talents, future technologies and experts in the field of communication and information systems and OPTOKON company fully supports and collaborates with the New Next-generation communication specialist. This is because the relationship with communication technologies needs to be constantly developed and technology is not possible without professional staff, both on the side of the manufacturer and the user.

## Twenty-five-year cable warranty and lifetime patchcord warranty

OPTOKON, a.s. and OPTOKON Kable spol. s r.o. have consistently prioritized the quality of our materials and final products, as well as ensuring customer satisfaction. As a result, we have decided to offer a lifetime warranty on our patchcords and a 25-year warranty on cables. This commitment is reinforced by our updated production testing system and strict cable testing during the cable manufacturing process.



# Company News

## New-generation cross-domain solutions

Last year, OPTOKON became a partner of INFODAS. This partnership expands the customer solutions offered by OPTOKON with cross-domain solutions, which enable message transmission between domains or networks with varying levels of security. This year, a partner workshop was held where OPTOKON representatives were trained in the design of cross-domain customer solutions for stationary and tactical networks. This has expanded the competence of the technical department not only for solutions implemented in the Czech Republic but also for projects implemented abroad through OPTOKON branches.



The core of the solution is a security gateway that connects networks with varying levels of security, allowing the secure transmission of both structured and unstructured data. For the transmission of structured data, which is mainly used for message exchange between applications and services, customer-defined security rules are used. These rules are implemented directly into the security gateway. For unstructured data, such as email or other text messages, security gateway solutions are complemented by a labeling server.

The solution also includes the administrator and auditor workstations, and access card solutions with the certification authority. Of equal interest is the intelligent light solution or the MetaDefender kiosk solution, which protects secure networks against malware attacks from unsecured networks. The entire INFODAS portfolio is certified by the Federal Office for Information Security (BSI) as well as other relevant security institutions in the EU and NATO.

The addition of INFODAS products to OPTOKON's portfolio means that customers can implement secure, robust, and effective cross-domain solutions for stationary and tactical networks.



# New Products

## CS-1000C Mini size 1G media converter

The CS-1000C series is a set of small Gigabit Ethernet to fiber converters that act as a media interface between copper and fiber optic cables. They have an RJ-45 connector and a pair of fiber optic connectors and can extend cabling distances up to 2 kilometers for multimode optical fiber and 20 kilometers for single-mode optical fiber. The converters feature LED indicators to signal power status, Ethernet port, and FX port activity. The CS-1000C-S31-20 model also supports single-mode and multimode applications, flow control enable/disable, Jumbo Frame 9K support, auto-cross over for MDI/MDIX in TP port, auto-negotiation, manual mode in TP port, and Link Fault Pass Through (LFP) function.

[The datasheet can be downloaded here](#)





# New Products

## LMCP-7H Compact, ultra-durable server

The OPTOKON LMCP-7H is a compact, ultra-durable server equipped with an Intel CPU, M2 on-board disc, and up to 6 routed Gigabit Ethernet ports. It also supports up to 64 GB of DDR4 memory, which reduces power consumption compared to DDR3-based servers. The LMCP-7H is designed to operate in harsh and rugged environments, with military-grade features, including a sealed design against dust and debris, and the ability to withstand shock, vibration, and extreme temperatures. The server offers a removable high-capacity SSD disc with erase functionality and a button for disc erasing, as well as a variety of output ports, including USB and RS-232. The LMCP-7H also supports a GSM-GPS module and comes with rugged D38999 multipin connectors. The server has an extended operating temperature range and a wide power supply voltage range.

- Intel® Xeon® Processor
- 64 GB DDR4 Memory
- 6x 1G routed server ports
- USB, RS-232 serial ports



For more detailed information contact our sales department [SALES@OPTOKON.COM](mailto:SALES@OPTOKON.COM)

## LMSW-164M Ruggedized Gigabit Ethernet Layer 2 Managed PoE Switch

4x 1G/2.5G/5G/10GBase-X FO HMA  
16x 10/100/1000Base-T, RJ-45 with PoE+



The LMSW-164M is Layer 2 military grade managed switch with 4x Fiber optic HMA-J ports (1 – 10 Gigabit Ethernet) and 16x 10/100/1000Base-X RJ-45 ports with PoE+ functionality that provides stable and reliable Ethernet transmission. The LMSW switches are designed and manufactured to meet strict requirements for ruggedness, reliability, and security in military applications. They have features such as advanced security protocols, redundant power supplies, and shock and vibration resistance. Layer 2 managed switches are network devices that operate at the Data Link Layer (Layer 2) of the OSI model and are used to connect multiple network devices together.

The LMSW-M series models can provide excellent data optical network performance and rugged design.

The switch is able to fit all the common 24 V DC power systems. The switch operates in wide operating temperature range -40 to +85 °C. The switch can operate as stand alone device or in addition the 19" brackets allow switch installation into 19" rack.

For more detailed information contact our sales department [SALES@OPTOKON.COM](mailto:SALES@OPTOKON.COM)

# New Products

## LMC-01.GC Gigabit Ethernet Mini Media Converter, Ruggedized type

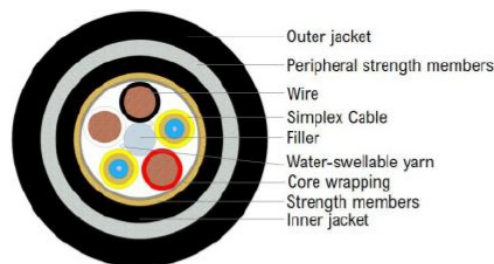
The LMC series offers a media converter housed in a robust metal box that provides Expanded Beam connectors for fiber optic cable and copper twisted pair ports for harsh environmental conditions. The LMC is designed to meet the demands for mobility, easy installation, and mechanical resistance necessary for deployment in the field, and it extends the use of Ethernet in harsh environments such as heavy industry, petrochemicals, mines, and broadcasting. The LMC converters allow connectivity up to 2 km over MM fiber and up to 50 km over SM fiber. The basic LMC-01.GC configuration includes the media converter in a ruggedized box with optical and electrical port converters terminated at separate connectors, HMA type for FO and rugged RJ-45 for copper LAN interface.



For more detailed information contact our sales department [SALES@OPTOKON.COM](mailto:SALES@OPTOKON.COM)

## HC-HMA-S hybrid cable 2x FO + 3x Cu wiresv

The OPTOKON HC-HMA-S hybrid cable combines highly durable flexible cable with HMA-S hybrid fiber optic Expanded Beam and copper wire connectors. It allows for data communication and power supply for connected devices, making it suitable for military tactical systems, FTTA applications, and CCTV systems. The cable includes two optical fibers for high-speed communication systems and three copper wires for the power supply and control serial interface. Its flexible design allows for reliable connections for moving devices, and it is ruggedized for field use, meeting MIL-DTL-38999 standards with an operating temperature range of -40 to +70 °C.



The datasheet can be downloaded [here](#)

## MCNP-xAP - Rack Mount Connector Network Panel Rating IP41 + Angled fit of adapters

The MCNP-xAP Connector Network Panel is an affordable optical distribution frame that can be mounted on a 19" rack. It is designed for splicing pre-made pigtails, pre-terminated cables, and connectors that can be installed on site. The panel is made from a lightweight and durable aluminum-magnesium alloy, which makes it easy to handle during installation and operation, and also helps keep transportation costs low.

The incoming cables are connected to the rear panel of the unit using a PG cable gland, which helps the MCNP-xAP meet the IP41 rating. The pivoting shelf on the panel can be equipped with either a splice tray holder or bend radius protection to guide, store, and organize excess slack. This helps prevent damage to fibers before they are routed into couplings.

The MCNP-xAP is equipped with angled adapters that prevent direct eye contact with the fiber optic light beam and reduce the risk of exposure to the laser.



The datasheet can be downloaded [here](#)

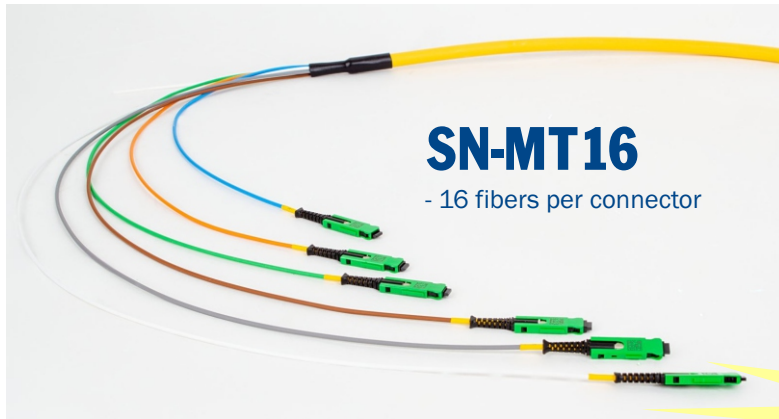
# New Products

## PUDOS 19" Rack mount Optical Distribution Frame for Data Centers

The PUDOS is a cost-effective rack-mountable optical distribution frame that is designed for data centers. It accommodates manufactured pigtailed and pre-terminated cables with rear strain relief to prevent fiber damage during routing into couplings. The slide-out shelf provides full access to internal fiber connections for easy cleaning and connection management. The modular system allows splicing and termination of up to 1536 fibers with SN-MT connectors in a 1U rack height. It accepts the most common connector types and has grounding provisions with a durable powder coat finish. The compact design is made of lightweight aluminum-magnesium alloy, reducing shipment costs.



[The datasheet can be downloaded here](#)



DATA CENTER  
**DOS**<sup>®</sup>  
OPTOKON SYSTEM



**The highest  
density in the world**

Maximum Densities for LC, MPO / MTP and SN-MT connectors:

LC (adapter x connector x fiber)	CS (adapter x connector x fiber)	MPO / MTP (adapter x connector x fiber)	SN/ APC – MT (adapter x connector x fiber)
1RU = 96 fibers (24x4x1)	1RU = 128 fibers (16 x 4 x 2)	MPO12 1RU = 288-fibers (24x1x12) MPO24 1RU = 576 fibers (24x1x24)	<b>1RU = 1 152 fibers (18x4x16)</b> <b>1RU = 1 536 fibers (24x4x16)</b> <b>1RU = 3 456 fibers (54x4 x16)</b>
2RU = 192 fibers (48x4x1)	2RU = 256 fibers (16 x 8 x 2)	MPO12 2RU = 576 fibers (48x1x12) MPO24 2RU = 1152 fibers (48x1x24)	<b>2RU = 2 304 fibers (36 x4x16)</b> <b>1RU = 3 072 fibers (48x4x16)</b>
4RU = 384 fibers (96x4x1)	4RU = 512 fibers (16 x 16 x 2)	MPO12 4RU = 1152-fibers (96x1x12) MPO24 4RU = 2304 fibers (96x1x24)	<b>4RU = 1 152 fibers (72x4x16)</b> <b>4RU = 3 072 fibers (96x4x16)</b>

The **OPTOKON DOS system** can use different types of multifiber connectors, making it more versatile and compatible with various fiber optic networks.



[Read more information about DOS](#)

# New Products

## OFT-850K Hybrid Cable Test Set

The OFT-850K is a hybrid cable tester set that includes a SOURCE and TESTER unit. It is designed to test loss in optical fibers and the continuity of copper pairs in hybrid cables. The unit combines an optical light source, optical power meter, and a copper wire checker. It is ideal for testing hybrid systems that include both optical fibers and copper wires. The unit comes in a ruggedized aluminum case and has a memory capacity for storage and uploading of over 1000 measurements, with the ability to download and generate test reports. The tester operates in manual or auto mode and can detect incorrect fiber and wire connections, disconnections, and short-circuit connections. It supports both MM and SM applications and has a high dynamic range. The unit is easy to use with menu navigation and has a built-in charger with a battery status indicator.



[The datasheet can be downloaded here](#)

# WE SUPPLY FUTURE FTTH TECHNOLOGY

## Easy Fiber

Easy Fiber is a cutting-edge solution that enables you to create high-quality fiber optic connections quickly and easily. The concept of the Easy Fiber system involves connecting the patchcord ONLY with the zirconia ferrule, which is the primary component of the SC/APC connector, rather than the entire connector itself. At the factory, the optical fiber is attached to the ferrule with resin and polished at an 8-degree angle. This technique guarantees that the optical patchcord retains the same dimensions and threading capacity as the non-connectorized cable.



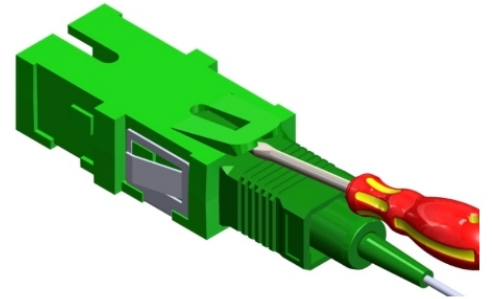
**Get Future-Ready with  
OPTOKON**

# New Products

## Easy Lock

The Easy Lock is an SC type fiber adapter that incorporates a flexible retaining element on top of its surface edge to prevent unintentional disconnection of the standard SC connector unless a tool or specific release maneuver is used. This adapter is primarily designed for end-users who handle optical fibers but can also be utilized in scenarios where security issues are crucial (e.g., MDF in central offices, closed-connect cabinets, termination boxes, etc.). It fully adheres to the IEC 61754-4 SC connector standard.

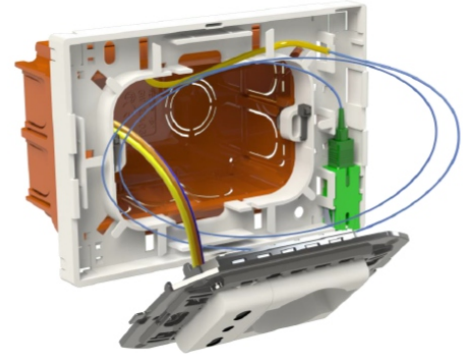
On the other hand, Easy Link is a versatile product that seamlessly integrates with any electrical building infrastructure system, such as power, TV, RJ45, and others. This compatibility feature further enhances the practicality and user-friendliness of the Easy Link system.



## Easy Link

Easy Link is a universal optical outlet that is perfect for FTTH installations in existing buildings. With its unique cover that includes a breakable slot, Easy Link can be easily wall-mounted or installed onto an existing socket, even if it is already fully occupied by other services. On the system side, the fiber cable can enter the outlet either flush with the wall or from inside the wall box, even if it is pre-connected.

Moreover, Easy Link is versatile and compatible and can seamlessly integrate with any type of electrical building infrastructure system, including power, TV, RJ45, and others.



## Easy Key

The Easy Key is an innovative SC/APC optical fiber adapter designed in a keystone configuration and equipped with the Easy Lock system, which securely locks the connector inside the adapter.



**Upgrade Your Connectivity  
with new FTTH Solutions**

[The datasheet can be downloaded here](#)