Newsletter

June Newsletter 2021

Welcome to the June 2021 edition of the OPTOKON newsletter, which is issued as the summer holidays get underway in most of the northern hemisphere countries and we wish all our customers, partners and branches a peaceful and healthy holiday time.

It is also our pleasure to report some good news in what has been a demanding year for everyone. This edition features news of the **OPTOKON - SENKO ALLIANCE** - Transfer Technology Agreement for SN® and CS® Connectors and new cable innovations from OPTOKON Kable. As the fiscal year has now closed, we are also pleased to report positive news, and despite the effects of the pandemic, it has been a record-breaking year for OPTOKON in terms of connector production.

You can also find articles on successful reaccreditation of our calibration laboratories and details of the recent conference of the Army of the Czech Republic, which featured a presentation of the full military portfolio. You can also find all our usual features and news of our new product releases.

New products:

**PM-212-SN-GE
Multifiber optical power meter**

**LMSR-R63
Ruggedized next Gen Gigabit Router**

OPTOKON Kable Co., Ltd., s.r.o. is a manufacturer and supplier of high-quality standard and flame retardant optical fiber and copper cables.
A MEMBER OF OPTOKON GROUP

In this issue

Recent Exhibitions

ARMS AND SECURITY 2021
International Exhibition Center
Kiev, Ukraine, 27.4-2021-30.4.2021

Nuclear Power Plants Expo & Summit
Istanbul, Turkey
1.6.21-2.6.21

OPTOKON Forthcoming Exhibitions

IDEF 2021
International Defence Industry Fair
Tüyap Fair Convention and Congress Center
Büyükçekmece, Istanbul.
17.8.2021 – 20.8.2021

MILITARY RADAR + BORDER SECURITY SUMMIT
Hacettepe Beytepe Congress Center
Ankara, Turkey, Stand C13
5.10.2021-6.10.2021

The following exhibition has been rescheduled until 2022:

DSA 2022
MITEC, Kuala Lumpur, Malaysia
28.3.2022-3.3.2022

Company News

Operating and manufacturing in OPTOKON Jihlava during the summer holidays

We have received various requests asking if the company will close for holidays at any point over the summer or if production will be affected, as is the case in many industries. The answer is that OPTOKON will remain open and in full operation throughout the summer with current staff scheduled to substitute for colleagues on holiday. In this way, we plan to meet our commitments as usual.

OPTOKON Annual Report

The 2020 fiscal year is now closed and the OPTOKON Annual Report published. OPTOKON felt the impact of the COVID-19 pandemic in multiple dimensions and is now emphasizing sustained growth over the long-term future. Despite the unforeseen circumstances, OPTOKON production in the Czech Republic is going through its most successful period in history. We have manufactured a record number of passive optical components and optoelectronic ruggedized products and optical testers. Thanks to our 30-year history, we have achieved considerable success in foreign trade. Our success is related to the development and implementation of modern technologies. What was not needed a few years ago is today a matter of course and our endeavour to respond to modern trends and developments in all our production divisions. Against the background of the ubiquitous "COVID-19" pandemic and its impact on the global economy, our company still achieved a solid result.

OPTOKON and SENKO Collaboration for SN® and CS® Connectors
(Ing. Jiří Štefl, OPTOKON a.s. CEO & Chairman)

July 1st, 2021 – OPTOKON a.s. and SENKO Advanced Components (Europe) Ltd. (SENKO) announce the signing of a collaboration agreement for Senko SN® and CS® connectors and adaptors. With this agreement, OPTOKON will be promoting and making available these connectors and adaptors whilst adding the ability to provide assemblies of SN® and CS® connectors, adaptors and patchcords.

The intermateability standard is under development within the IEC as per IEC 61754-36 Type SAC connector and these interfaces have already been adopted in QSFP-DD and OSFP MSA transceiver specifications. These transceivers are the new specifications for the next generation of pluggable transceivers for 200Gbps, 400Gbps, and 800Gbps for optical connectivity for datacom applications.

The SN® connector is a new duplex optical fiber connector that uses LC-style ⌀1.25 mm Zirconia ferrules, designed for the next generation Hyper-Scale, Edge, Enterprise, or Co-location. The SN® connector provides superior optical performance while reducing the typical number of connection points in the optical path. The SN® connector was designed to provide individual and independent duplex fiber breakout at a quad-style transceiver (QSFP, QSFP-DD & OSFP), which is more efficient, reliable, and scalable than the MPO connector. The SFP-DD has also adopted the SN® as their independent duplex style interface, mainly for wireless fronthaul application.

Beyond transceiver interfaces, SN® increases and improves the fiber density and capacity for the existing fiber optic cassettes and patch panels. Compared to the LC connector, SN® provides three times higher density. This will further support the implementation of more fibers without adding new rack units, which can be used in multiple applications – not only DCI but in telecom and wireless.

Datacenter growth has created challenges and opportunities for component and system vendors. The primary challenges include supporting increased bandwidth density along with superior manageability without increasing the physical layer connectivity footprint of existing datacenters

Company News

New Solutions

Two new solutions have been designed to address the needs of the enterprise and hyper-scale data center. Both connectors are leveraged from the parent duplex LC connector with ø1.25 mm zirconia ferrules. The pitch of the CS® and SN® connectors has been changed to allow a two to four times increase in fiber density at the optical distribution frame (ODF) front panel.

The enterprise and hyper-scale data centers' physical infrastructure structured cabling plant has not changed for many years with the use of duplex LC and MPO connectors. The recent requirements to increase the networking bandwidth in both enterprise and hyperscale data centers provide additional advantages and benefits with the deployment of the CS® or SN® connectors.

The CS® connector was optimized as a robust higher density replacement over the duplex LC connector in both rack and structured cabling environments.

The SN® connector provides increased density over the CS® connector and the ability for individual breakout at the transceiver. In addition to breakout capabilities at the transceiver, the SN® connector allows direct cross-connection without the need for additional breakout cables or fiber shuffles that add up to four fiber connections into the overall link. Additional fiber connections add increased insertion loss, create points of failure, and increase overall cost.

Connector type	1RU Patch Panel
LC	72-channel / 144-fiber
CS®	168-channel / 336-fiber
SN®	192-channel / 384-fiber - 256/264-channel / 512/528-fiber

Both CS® and SN® use single mode quality zirconia ferrules, which provide optical signal integrity. Easy cleaning and maintenance are similar to the duplex LC connector. The CS® connector supports ø2 mm or ø3 mm jacketed cable, where the SN® connector can support ø1.6 mm or ø2 mm jacketed cable.

The CS® connector replaces the current duplex LC connectors, which are too large for next-generation transceivers such as QSFP-DD and OSFP interfaces for dual optics engine transceivers and facilitates the need for increased connector density in patch panels. CS® is compatible with dual duplex transceivers supporting 2 x 100GE, 2 x 200GE, and 2 x 400GE when they become available. The SN® connector replaces the MPO connector in quad fiber applications such as PSM4, SR4, DR4 and SR4.2 modules. The SN® connector will support 4 x 100GE (400GBASE-DR4) and 4 x 200GE transceivers when they become available.

Company News

Summary of CS vs. SN data center applications

CS® Connector - Enterprise Co-Lo, Cloud & Edge
- Serial, Parallel and WDM optical cabling schemes
- Central Network Point of administration cross-connect
- Trunk cabling to zone cabinets, switches and servers
- CS®/CS® trunk cables
- MPO/MPO trunk cables
- CS®/MPO trunk cables
- CS®/CS® jumpers 2.0 mm O.D.
- CS®/LC jumpers 2.0 mm O.D.
- 10G, 40G, 100G, 200G & 400G

SN® Connector - Hyper-Scale
- Parallel optic cabling schemes
- Central Network Point of administration cross-connect
- Trunk cabling to zone Cabinets, switches and servers
- MPO/MPO trunk cables
- SN®/SN® jumpers 1.6 mm O.D.
- 400G

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5th Conference of the Armed Forces of the Czech Republic

On 16-17 June 2021, OPTOKON took part in the 5th Conference of the Armed Forces of the Czech Republic, organized by the Communication and Information Systems Section of the Ministry of Defence and the Communication and Information Systems Agency in cooperation with the Czech branch of AFCEA.

Representatives of OPTOKON presented and demonstrated the functionality of the company's product portfolio directly under field conditions. The primary interest of the representatives of the armed forces lay in the LMCP28H and LMCP7 platform, which includes the software superstructure for field SNMP surveillance. A new feature was the demonstration of the portfolio of the complete networking functionality of switches and routers built on Cisco components.
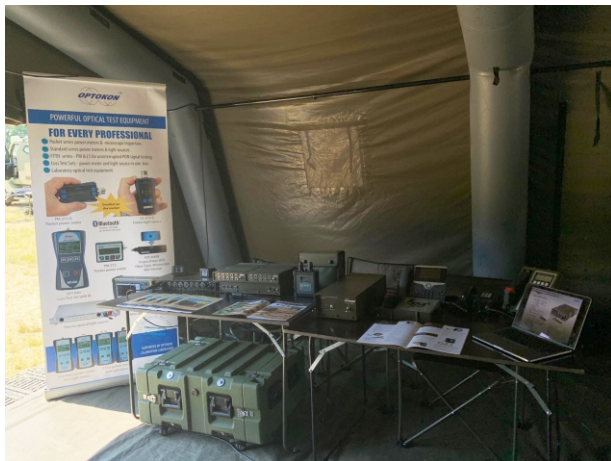
Company News

OPTOKON presentation and live demonstration for the Slovenian army

The Defence and Security Industry Association of the Czech Republic (DSIA) in cooperation with the Embassy of the Czech Republic in Ljubljana and GOIS (Slovenian Defence Industry Cluster) organized the Czech-Slovenian Industrial Day, which took place on 24 June 2021 in Ljubljana. The event was attended by Slovenian companies as well as representatives of Slovenian ministries. The program opened with speeches by the Ambassador of the Czech Republic to Slovenia, Juraj Chmiel, and the Deputy Minister of Defence of the Czech Republic, Jan Havranek. Before the presentations by the Czech companies, a contract was signed by the Vice President of the DSIA, Kristina Stejskalová, and the Director of GOIS, Ante Milevoj, on mutual cooperation in the defence industry between the two countries.

Successful OPTOKON Calibration laboratories recertification

A regular reaccreditation audit was conducted in the OPTOKON Calibration Laboratory between 1-4 June 2021. The assessment was according to the revised standard ČSN EN ISO/17025:2018 and was conducted by the Czech Institute for Accreditation, O.P.S. This is an extension of the validity of the granted accreditation for another period. The lead assessor did not find any non-conformities during the audit and recommended the extension of the accreditation. A new procedure – OSA Calibration – has been added to the calibration procedures from the scope of accreditation. All existing procedures, including temperature and humidity calibration, remain within the scope of accreditation for a further period. KL OPTOKON continues to operate three calibration sites; two of which are in Malaysia.

Recertification audit ČOS 051672 (AQAP 2110)

In May 2021, the company underwent a recertification audit according to ČOS 051672 (AQAP 2110). During the audit, representatives of the Office for Defence Standardization, Cataloguing and State Quality Verification examined the entire quality assurance system of OPTOKON, a.s. During the audit, the auditors particularly focused on the process approach, the interconnection of individual activities, compliance with established procedures and record-keeping throughout the process. The auditors' approach was strict but fully correct. New suggestions for improvement were defined in the course of discussions on individual areas, which is a valuable resource for our company in the process of continuous improvement. The audit concluded that OPTOKON, a.s. fulfils all the requirements of ČOS 061672 (AQAP 2110) with its integrated management system (ISM). We would like to thank all the company employees who participated in the audit.

Company News

DATOVÉ CENTRUM VYSOČINA

www.optonet.cz

Meet Tier 4 Certification

The phenomenon of today is the process of digitization, which we encounter today and every day. This gradual process brings with it the need to back up all data in digitized forem.

The most modern method of secure and durable data storage is external storage in a data center, which is a device with unparalleled storage capacity and is used for massive data storage. A data center provides a large number of guarantees regarding the security and durability of the data stored in it and utilizes both digital and mechanical security methods to ensure its defense against corruption, loss of data, and theft. A modern complex with data center state-of-the-art technology is the new DATOVÉ CENTRUM VYSOČINA. Its architecture is designed to withstand the most serious technical incidents, leaving customers feeling secure about the availability of its services.

OptoNet Communication, spol. s r.o., which is part of the "OPTOKON Group", has operated a data center since 2003 in Jihlava. The company is now building a new data center in line with the strictest international standards for data centers – **the TIER 4 level standard**. The TIER standard defines the levels of performance, and therefore the availability, of a data center infrastructure and is a parameter for the level of operability and security. The project also includes requirements for power supply systems and data connections of national and international networks, which are ensured by continuous backup. "Concurrent management" is proposed in the facility, which means that any maintenance in the center can take place without disrupting the activities of the center and full functionality is ensured throughout the operation.

As such, the "DATOVÉ CENTRUM VYSOČINA" is uniquely designed and offers excellent energy efficiency, where half of the area built in the first stage of construction will be divided into two technological rooms. The halls have an area of 226 m2 and a clear height of 350 cm and their microclimate is in accordance with the standards required for the construction of the most modern data centers not only domestically but globally. From a technical point of view, it is worth noting that the power density of one rack can reach up to 5 kW. The data center building is energetically connected on a common high-voltage cable, which based on a circular typology, provides power from two independent sources and two backup generators with a fully autonomous operation for at least 30 hours from the operating tanks.

Due to the high heat consumption, the entire data center equipment must be cooled. Ecological indirect "air face cooling" technology will be used to maintain a suitable temperature of the equipment and the cooling of technologies takes place in the form of cold and warm alleys. Within this cooling system, the cooling units are located outside the technology halls, which ensures easier servicing while providing greater safety.

In terms of safety, the device is divided into safety zones with controlled movement of people and material. In addition, the safe operation of the equipment will be supervised by continuous, local and remote monitoring of the operating conditions of all supporting technologies.

Company News

DATOVÉ CENTRUM VYSOČINA

The integrity of the data center will be ensured by the right of entry, where access will be via an electronic access control system including biometric elements, electronic alarm security, an emergency system and camera surveillance system with an archiving period of at least 30 days. All these safeguards will be supplemented by the continuous physical security of the entire building 24x7x365.

The Vysočina Data Center will not only be admired for its monumentality and architectural character but will also be a unique project in the Czech Republic. It is built on a strategic point where Telia's main optical routes - "Viking Network" and "PAN - European Network" pass. In addition, the Vysočina Data Center is located directly on the main "BackBone" network of the Czech Republic and lies close to the D1 motorway. The basis of our optical network is sixteen and eleven protection routes connecting all the key cities in the Vysočina Region.

Meet Tier 4 Certification

Tier 4 – 99.995%
Guaranteed availability

A MEMBER OF OPTOKON GROUP

- Zero single points of failure. Tier IV providers have redundancies for every process and data protection stream.
- 99.995 % uptime per annum.
- 2N+1 infrastructure (two times the amount for operation plus a backup). 2N+1 is "fully redundant."
- 26.3 minutes of downtime per annum as a maximum
- 96-hour power outage protection

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Company News

OPTOKON Kable Co., Ltd., s.r.o.

OPTOKON Kable, a member of the OPTOKON Group, provides cables for both the Czech and international market and is a supplier for one of the largest domestic telecommunications companies offering fixed-line access network, mobile access network and international telecommunication services. Since its foundation in 2016, Pelhřimov based OPTOKON Kable has continued to expand and offer highly sought after innovative cable constructions. In line with this policy, the company recently launched two new cable constructions on the market.

The first is the Outdoor Multitube Micro Cable 144F (NC) cable designed for external installation by air-blowing. The cable has 144 fibers and is available in lengths of 2000m, 4000 m, 6000 m, and 8000 m and is ideal for plugging into microtubes. Full technical details can be found on the datasheet that can be downloaded here.

Outdoor Multitube Micro Cable144F (NC)
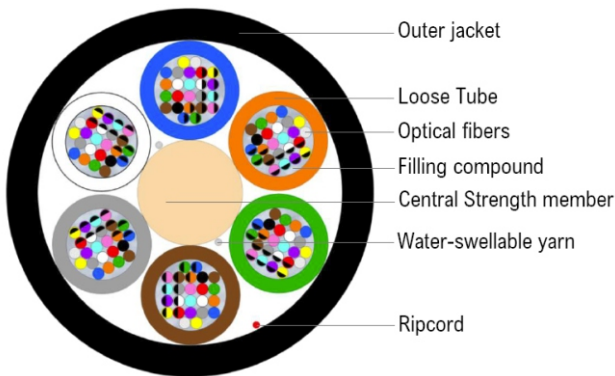
Round Drop Cable
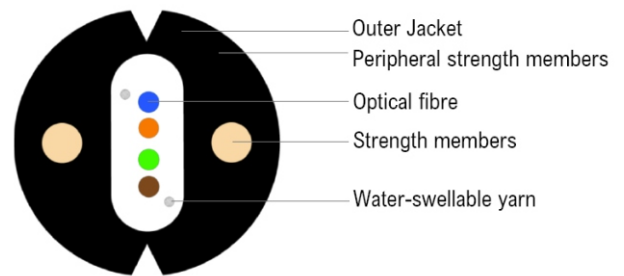
The second new product launch is the Round Drop Cable, which is universal cable and ideal for horizontal and vertical installation in buildings and for outdoor applications in FTTx networks. The cable can contain up to four fibers and has an outer diameter of 3.3 mm. Full technical details can be found on the datasheet that can be downloaded here.

LMSR-R63
Ruggedized next Gen Gigabit Router

The OPTOKON LMSR-R63 ruggedized router based on Cisco Next Gen GE Embedded Router 6300 is optimized for military networks that require IP routing and services. The compact router provides highly secure data, voice, and video communications to stationary and operational-tactical network nodes. The router supports a variety of management functions, including Cisco DNA, Web UI, IOx, MIB – SNMP (version 2 and 3), syslog etc. and can fit all standard 24 V DC power systems. The router operates in a wide operating temperature range -40 to +70 °C and can operate as a standalone device or be installed into a 19" rack.

For datasheet please contact our sales department
SALES@OPTOKON.COM

New Products

PM-212-SN-GE
Multifiber optical power meter

The PM-212-SN-GE optical power meter is designed to measure absolute or relative optical power in optical networks terminated with duplex SN connectors. Because of use the large scale Ge photodiode the tester can measure overall optical power level from both fibers of SN connectors in wide wavelength range.

The memory capacity allows storage and uploading of up to 100 measurements including memory position or fiber number, wavelength, absolute value or relative value and insertion loss. The SmartProtocol PC evaluation software supports memory download, test report generation and Data Exporter for data download to Excel sheet.

The datasheet can be downloaded here.

LTP-16N, LTP-16NT
GPON Optical Line Terminal (OLT)

The Optical Line Terminal (OLT) is designed to provide broadband access over Passive Optical Networks (PON).

GPON interfaces are used to connect the optical distribution network (PON) and up to 128 subscriber optical terminals can be connected via a single fibre for each interface. Access to the operator's transport network is provided through 10 Gigabit or combined Gigabit uplink interfaces.

The OLT LTP allows carriers to build scalable, fault-tolerant "last mile" networks to ensure the highest safety standards. The OLT manages subscriber devices, traffic switching and connection to the transport network.

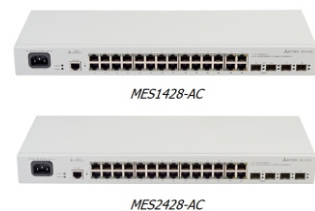The datasheet can be downloaded here.

LTP-16N

LTP-16NT
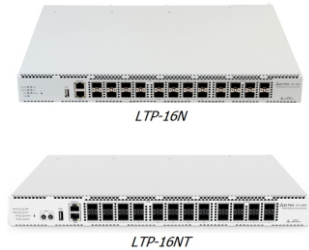
Ethernet Access switches MES1428, MES2428

The switches provide end-users with connection to networks of large enterprises, small and mid-sized businesses and service providers via Fast and Gigabit Ethernet interfaces.

The switches support Virtual Local Area Networks (VLAN), multicast groups and advanced security functions.

The datasheet can be downloaded here.

MES1428-AC

MES2428-AC

Ethernet access switches MES24xxP with PoE

MES24xxP series switches with PoE support provide end-users with connection to networks of large enterprises, small and mid-sized businesses and service providers via Gigabit Ethernet interfaces.

The switches support Virtual Local Area Networks (VLAN), multicast groups and advanced security functions.

The datasheet can be downloaded here.

MES2408P-AC

MES2428P-AC