OPTOKON®


# NEWSLETTER

March 2025

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OPTOKON GROUP

# OPTOKON Newsletter March 2025

Welcome to the latest edition of our newsletter! In this issue, we highlight our latest advancements and ongoing developments. Our **Ruggedized Network portfolio** continues to grow, with new solutions designed to enhance secure and reliable connectivity in extreme environments. The **AIRDA/ XARDA Ruggedized Display Assistant** and LMRG & LMRS Radiation Detection Systems bring cutting--edge technology to mission-critical applications.

We're also putting a stronger spotlight on our OPTOKON Supervisor QR & Matrix Code System, making product tracking and digital documentation easier than ever. Looking ahead, we're preparing for major industry events, including AVALON 2025, Modern Day Marine, and ASDA 2025, where we will showcase our latest innovations.

Stay connected for more updates, and as always, visit our website for the latest insights from OPTOKON!


## OPTOKON Featured in Market Research Reports

We are pleased to share that OPTOKON has been recognized as a key industry player in both the Global and Regional Market Report on **Optical Terminator 2025 and the Rack Mount Optical Distribution Frame (ODF) 2025 report.** These reports provide an in-depth analysis of market trends, technological advancements, and future growth projections across the fiber optic industry.

Being featured in these reports highlights our continued commitment to innovation and excellence in fiber optic solutions. As we advance in cutting-edge connectivity technology, we remain dedicated to delivering high-performance solutions that shape the future of telecommunications and data infrastructure.

## In this issue

# OPTOKON at SOK 2025 in Slovenia!

We are pleased to announce that OPTOKON participated in the 27th Seminar on Optical Communications (SOK 2025), held from February 5 to 7, 2025, at the Faculty of Electrical Engineering, University of Ljubljana, Slovenia.

At this esteemed event, dedicated to quantum information and communication technology, we showcased our latest rugged products and fiber optic solutions. Additionally, we delivered a presentation on our advanced Radiation Detection System, highlighting our commitment to innovation in optical communications.


We extend our gratitude to the organizers for facilitating this platform and to all attendees who engaged with us during the seminar.

## Notable Exhibitions Attended


CABLEXX 2025 - Cairo, Egypt

# OPTOKON Supervisor QR & Matrix Code System

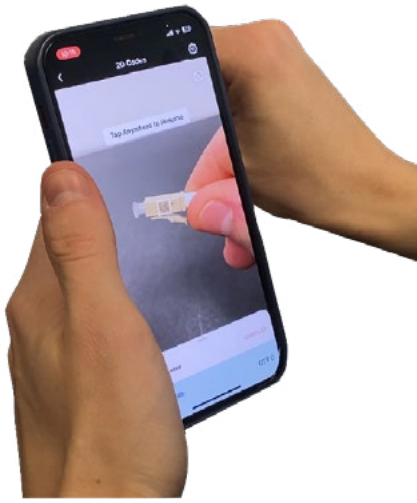

Managing product data has never been easier with the **OPTOKON Supervisor QR & Matrix Code System.** This **patented** technology enhances traceability, simplifies product management, and ensures instant access to essential product information.

Each product is uniquely marked—**QR codes** for test equipment and larger products, and **Matrix Codes** for smaller components like connectors. Scanning these codes provides immediate access to datasheets, test reports, maintenance records, and calibration details, all stored in our secure and continuously updated database.

With no login required, this system enables seamless digital integration, eliminating the need for physical labels while ensuring customers always have the latest information at their fingertips. Whether for maintenance, quality control, or certification purposes, **OPTOKON Supervisor** guarantees transparency and efficiency.

By incorporating this innovative solution, we reinforce product authenticity, reduce paperwork, and improve overall workflow for our customers. Experience the next level of digital product management and see how this technology is shaping the future of optical solutions.

***Watch the video demonstration here***


# Tactical Networks in Harsh Environments: Advanced Solutions

Tactical networks are essential for modern military and emergency response operations, providing secure and reliable communication in challenging and dynamic environments. These networks are designed to support the transfer of data, voice, and video between mobile and stationary units, even under extreme conditions such as adverse weather, vibrations, or physical impacts. Their resilience and adaptability are key to mission success, ensuring uninterrupted connectivity regardless of operational complexity.

Advanced tactical network solutions integrate **cutting-edge technologies with robust design**, delivering high-speed, secure, and resilient communication infrastructure. These solutions are critical for defense, security, and industrial applications where operational reliability and safety cannot be compromised.

Tactical network solutions offer enhanced mobility and flexibility by seamlessly connecting mobile and stationary units, ensuring consistent communication across various operational scenarios. High-level security is ensured through advanced encryption technologies and secure protocols that protect sensitive data and critical operations. These solutions are designed to withstand extreme weather conditions, impacts, and other environmental influences, ensuring continuous operation. Their modular construction allows for easy expansion and adaptation to specific mission needs, and their compatibility with various communication devices and systems supports comprehensive interoperability.

# Tactical Network Solutions and their advantages

## Role of HMA Expanded Beam Connectors

The HMA Expanded Beam Connector Series plays a crucial role in tactical network solutions by providing stable optical performance even in extreme conditions. These connectors utilize **expanded beam technology**, offering durable and contamination-resistant optical connections. This design is ideal for military and industrial applications.

The expanded beam minimizes sensitivity to contamination and reduces the need for frequent cleaning, ensuring consistent optical transmission even after more than 5,000 mating cycles. The **hermaphroditic design simplifies deployment** with adaptable, low-loss connections.

With **IP68-rated protection**, these connectors are resistant to dust, water, mud, and oil, delivering exceptional durability in harsh conditions. Their applications range from military tactical communication, avionics, and offshore systems to the mining industry and broadcasting technologies.

## LMCP-7H: Compact Ultra-Durable Server

The **LMCP-7H is a rugged, multifunctional computing device** designed for demanding military and field operations. This high-performance server leverages virtualization to function simultaneously as a **router, file server, remote desktop server, and more**—delivering an all-in-one solution for secure data management and distribution in critical environments.


Equipped with a powerful Intel® Xeon® processor and supporting up to 64 GB of DDR4 RAM, the LMCP-7H ensures **superior data processing performance**. Its robust design guarantees reliability and durability in extreme conditions, making it the ideal choice for defense and tactical missions.

## LMSW-E33: Ruggedized Gigabit Ethernet Layer 2/3 Managed PoE Switch

The **LMSW-E33 is a high-performance, rugged network switch** designed for secure and reliable data, voice, and video communications in the most demanding environments. Its compact and durable construction, combined with advanced Layer 2/3 networking capabilities, ensures seamless and efficient network management in tactical and field operations. **Equipped with HMA Expanded Beam connectors** for resilient fiber optic connectivity, the LMSW-E33 can also be configured for connections exclusively via metallic cabling, providing flexibility based on operational needs. Designed for mobile networks, it functions as a secure, **high-speed router** optimized for critical data transmission, voice communication, and video streaming in dynamic operational settings.

## LMSR-R63: Ruggedized Next-Generation Gigabit Router

The **LMSR-R63 is a robust, high-performance router** engineered for secure and scalable network operations in demanding tactical environments. Designed to deliver reliable data, voice, and video communication, it features advanced encryption for secure data transmission in the harshest conditions.

This next-generation router is equipped with two Gigabit Ethernet (GE) WAN ports and four GE LAN ports with Power over Ethernet (PoE) support, offering versatile and efficient network deployment. Operating on a 20–40 V DC power supply, the LMSR-R63 is built to withstand extreme temperatures ranging from **-40 °C to +70 °C**, ensuring dependable performance in even the most challenging environments.

Optimized for mobile networks, the LMSR-R63 delivers **secure, high-speed connectivity** for mission-critical data, voice, and video communications.

## LMIPT-41: High-Class Rugged IP Phone

The **LMIPT-41 is a premium rugged IP phone** built on proven **Cisco technology**, delivering secure and reliable voice communication in the most challenging environments. Designed for durability, it features a fully sealed, vibration-resistant aluminum chassis, ensuring consistent performance in extreme conditions.

The phone is equipped with a 5-inch high-resolution VGA color display for clear, user-friendly navigation and a **built-in Gigabit Ethernet switch** for effortless network integration. It supports both Power over Ethernet (PoE) and external power sources, providing **flexible deployment options**.

Engineered for secure voice communication over data networks, the LMIPT-41 offers all standard call features, making it an ideal solution for mission-critical operations.

## LMRG-8: Rugged Gamma Radiation Detector

The **LMRG-8 is a high-performance, rugged radiation detector** designed for rapid detection and accurate measurement of gamma radiation. Its **integrated isotope identification system** enables immediate threat assessment by quickly identifying hazardous radioactive materials. The detector is available in a lightweight variant optimized for drones and UAVs, enhancing monitoring capabilities in hard-to-reach or high-risk areas. It features a wide range of external interfaces for seamless integration with vehicle systems and command units, ensuring adaptability across various operational platforms.

Equipped with fast-response sensors, the **LMRG-8 delivers real-time radiation detection**, providing critical information for timely decision-making. Its durable construction **meets MIL-STD-810G standards** for operation in extreme environments and **MIL-STD-461 standards for electromagnetic compatibility**. The device complies with international safety and accuracy standards, including **IEC-60846, IEC-61453, and ANSI 42.17A/42.17C.**

The LMRG-8 offers two measurement ranges: Probe 1 measures from 0.01 to 10 Sv/h, and Probe 2 measures from 0.1 to 100 Sv/h, with an accuracy of ±10% of the measured value. This combination of rugged design, precision, and fast response makes the LMRG-8 an essential tool for military, security, and emergency response operations.


## LMC Series: Rugged Media Converter for Harsh Environments

The **LMC series is a ruggedized media converter** designed for reliable network connectivity in extreme conditions. Housed in a durable metal casing, it seamlessly connects fiber optic and copper Ethernet networks, making it ideal for industries like heavy industry, petrochemicals, mining, and broadcasting. The converter supports 10/100/1000 Mbps Ethernet with connectivity extensions up to 2 km over multimode fiber and up to 50 km over single-mode fiber. It features **Expanded Beam connectors for fiber optics and rugged RJ-45 ports for copper connections.** LED indicators provide real-time status updates on power, LAN, and fiber activity. The standard LMC-02.GF model includes two independent 1G media converters in one unit, each with dedicated fiber and Ethernet ports.

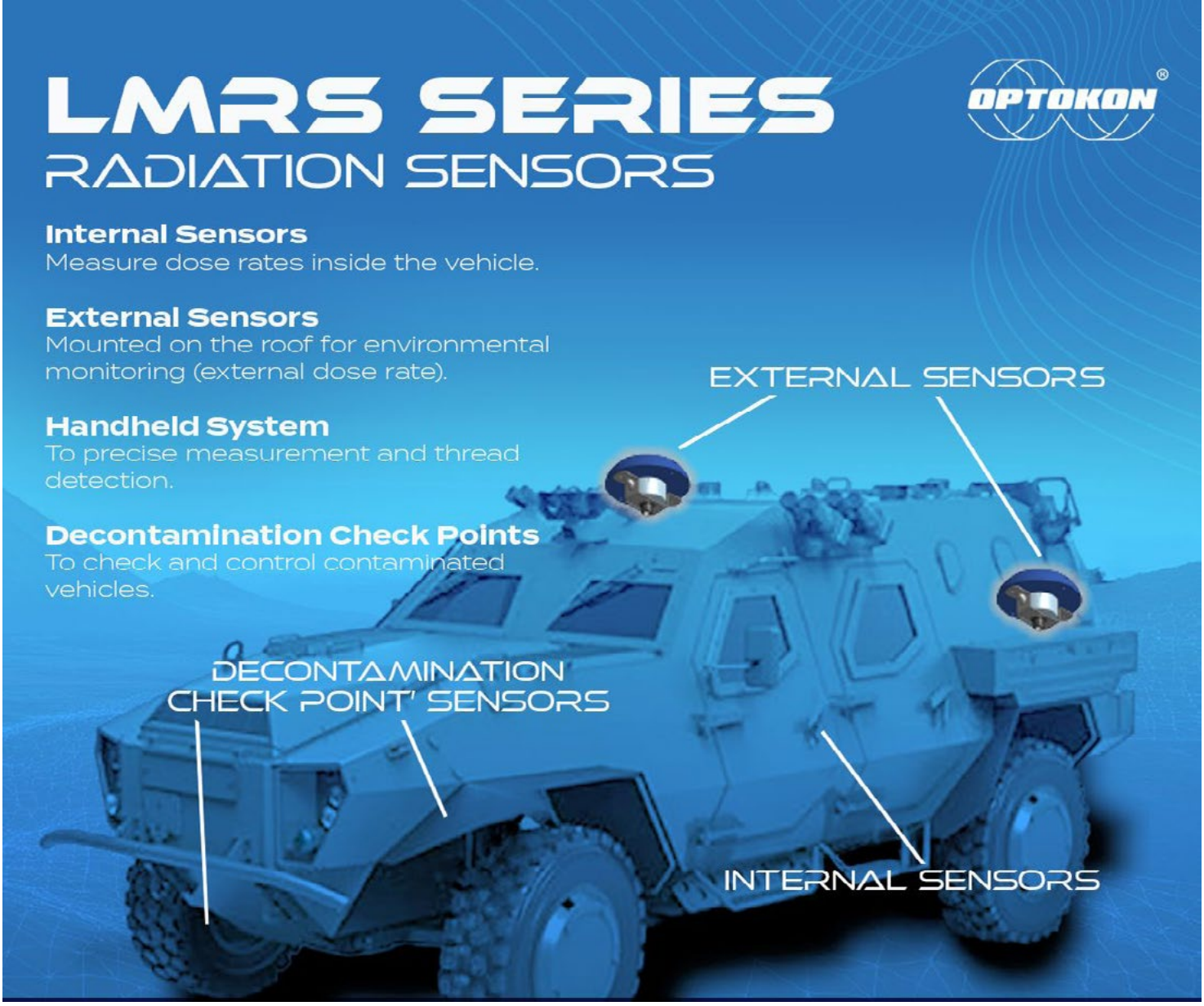
A single connector powers both converters for simplified operation. Advanced features include **Auto-Negotiation**, MDI/MDIX support, Jumbo Frame (9K) capability, flow control, Link Fault Pass Through (LFP), and Auto Laser Shutdown (ALS) for secure and efficient data transfer. Management is accessible via a web interface, supporting firmware upgrades, VLAN configuration, and remote monitoring. The LMC series ensures secure, high-speed network extension with superior durability for demanding field operations.

## AIRDA/XARDA: Ruggedized Display Assistant

The **AIRDA/XARDA is a robust 10-inch high-resolution display** specifically engineered for military vehicles, providing reliable visibility and intuitive control in the harshest operational environments. Designed for mission-critical applications in both **Air Force and Land Force operations**, this rugged display ensures durability, precision, and functionality where they matter most.

Featuring a **bright 1100 cd/m²** screen, the **AIRDA/XARDA** guarantees exceptional readability in all lighting conditions. Its intuitive user interface includes **28 backlit buttons and two rotary encoders**, enabling seamless and efficient operation even in extreme conditions. The display supports DVI and VGA video inputs, ensuring broad compatibility with various military systems and equipment.

Built for maximum resilience, the AIRDA/XARDA operates in extreme temperatures ranging from -55 °C to +85 °C and withstands operational altitudes from **-500 to 16,800 meters**. It is designed to perform reliably under acceleration forces from **-4g to +9g** and at speeds from 0 to 999 km/h. Weighing just 1.5 kg, it combines lightweight construction with rugged durability, making it an ideal solution for demanding military environments.




**Closer look at LMRS:**

# Expanding the OPTOKON Ruggedized Network: New Solutions on the Horizon

As we continue to push the boundaries of secure and resilient communication, OPTOKON is introducing **new additions to our Ruggedized Network portfolio.** Designed to thrive in demanding military and industrial environments, these upcoming products bring advanced capabilities in data storage, secure communication, and time synchronization.

## LMNAS-4
### Ruggedized Network-Attached Storage (NAS)

**A high-security NAS system** built to expand storage capacity for tactical operations. With strong encryption, fast data access, and military-grade durability, it ensures reliable and protected data management in mobile and stationary communication hubs.


## LMAC-10 - ATOM Clock

A precision **time synchronization solution independent of satellite navigation**, providing continuous accuracy for communication and control systems. Essential for military operations where GPS jamming is a risk, ensuring flawless unit coordination and data integrity.


## LMIPT-213
### Ruggedized Video IP Phone

A **high-resolution video telephone** built to withstand harsh environments. Featuring a reinforced handset, a durable keypad, and a **large touchscreen**, it ensures clear and secure communication in field operations, tactical vehicles, and command centers.

## LMAPT-105
### Ruggedized Analogue/SIP Phone

A **weatherproof, corrosion-resistant telephone** housed in a ruggedized aluminum alloy casing for durability in extreme conditions.

Compatible with analogue and SIP networks, it ensures dependable communication in military, industrial, and railway environments.


With these new additions, **OPTOKON strengthens its Ruggedized Network portfolio**, offering cutting-edge solutions for mission-critical operations.

# Erasmus+ Students Visit OPTOKON and OptoNet

Last month, we had the pleasure of hosting six **Erasmus+ students at OPTOKON**, giving them a hands-on experience with fiber optics and communication technologies. Their visit was a great opportunity to see how the industry operates in real life, beyond the classroom.

During their stay, they toured our production facilities, explored the latest **fiber optic innovations**, and got a firsthand look at how our solutions are used in real-world applications. They also visited the OPTOKON Kable factory, where they learned about the cable manufacturing process and its importance in modern telecommunications.

Outside of OPTOKON, the students made the most of their time in the Czech Republic, exploring the local area, visiting historical sites, and getting a taste of Czech culture. It was great to see them not only gaining technical knowledge but also enjoying the experience of being in a new country.


# Expanding with a New Facility and US Market Return

OPTOKON Group is thrilled to announce a significant step forward in our **global expansion** with the opening of a **brand new manufacturing facility in Turkey.** This strategic move strengthens OPTOKON Elektronik, our division specializing in the production of **advanced electronic devices**, allowing us to enhance our manufacturing capabilities and better serve our customers worldwide.

The new facility in Turkey will significantly boost our **production capacity**, supporting OPTOKON's commitment to delivering high-quality, innovative solutions. With cutting-edge technology and expanded resources, we aim to streamline our production process, reduce lead times, and continue to meet the growing demands of our international clientele.


In addition to the expansion in Turkey, OPTOKON is proud to announce our **return to the US market after 14 years**. We have established **OPTOKON North America**, our new subsidiary, which will serve as a hub for selling our extensive range of **active products, including test equipment**. This marks a pivotal moment for our brand as we reintroduce ourselves to the North American market, focusing on delivering top-tier products alongside an **in-house calibration laboratory** to ensure precision and reliability.

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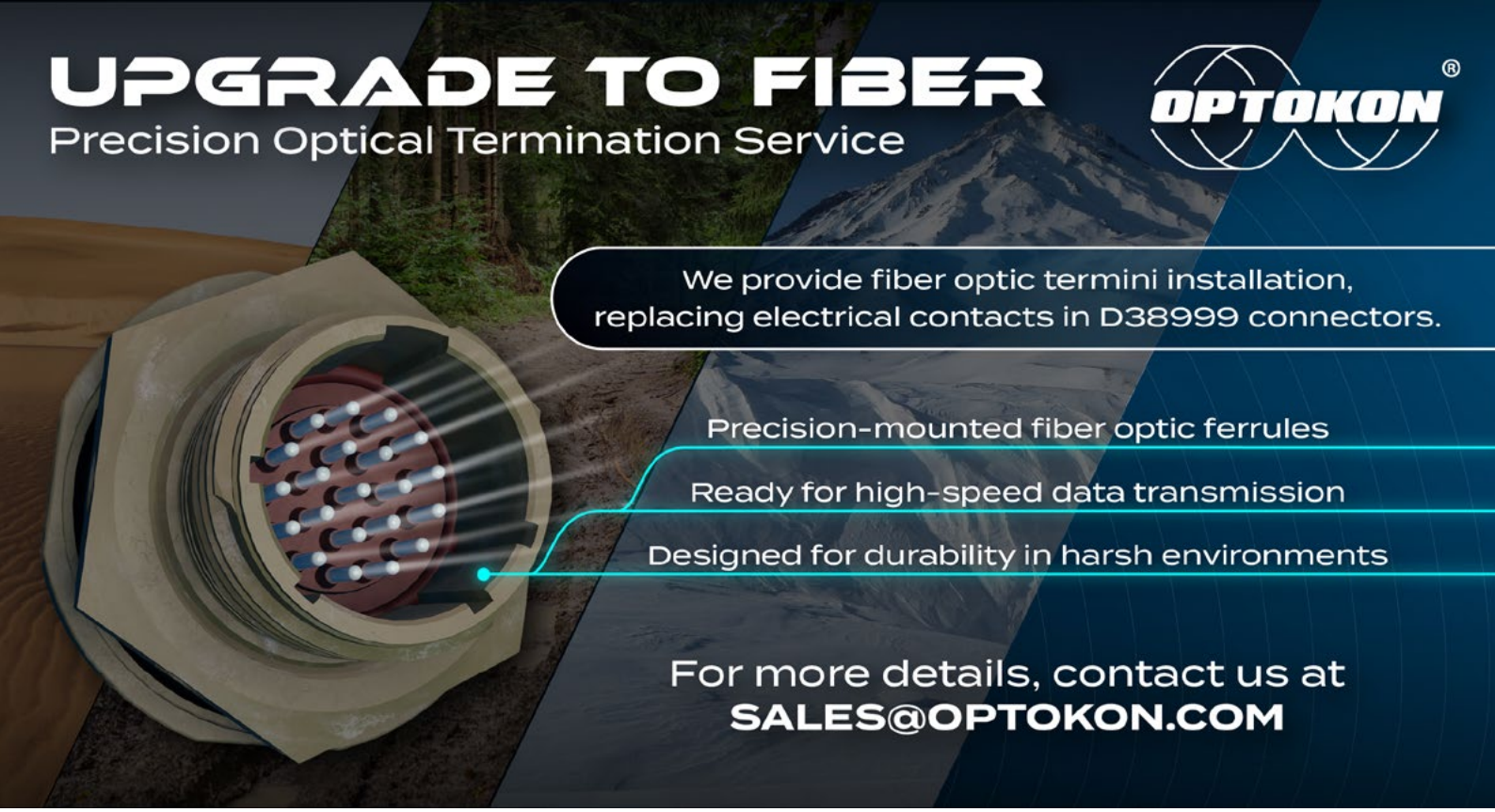
- **Exclusive Offers tailored just for our subscribers.**
- **Exciting Announcements**
- **Our Quarterly Newsletter**

Be the first in line for innovation, offers, and updates. Join the OPTOKON community today and never miss out!

OPTOKON® North America

With our expanded presence in both Turkey and the US, OPTOKON is poised to strengthen its position as a global leader in providing cutting-edge solutions for communication, defense, and industrial sectors. These developments demonstrate our commitment to innovation, quality, and customer satisfaction on a global scale.




# Upgrade to Fiber: Military-Grade Connector Termination Service

OPTOKON offers a specialized **fiber optic termination service**, enabling the integration of high-performance fiber optic termini into **military-grade D38999 connectors**. This service allows for the replacement of traditional electrical contacts with ruggedized optical solutions, ensuring enhanced data transmission, minimal signal loss, and superior reliability in extreme conditions.

With precise termination and polishing techniques, we achieve ultra-low insertion loss and optimized optical performance. Our service ensures **compliance with strict military standards**, making it the ideal solution for aerospace, defense, and industrial applications requiring secure, high-speed communication networks.

## MOT-200 Mini OTDR series

- **USB Type-C** Port for data transmission
- Temperature Range: **10°C - 50°C** (operating); **-20°C - 70°C** (storage)
- 4.95-inch Capacitive **Touch Screen**
- One-Button Automatic Testing
- Built-in OLS, OPM, VFL, and RJ45 Cable Tester
- Stores 1,000+ Testing Results
- Professional Software for report generation


**NEW ON THE MARKET!**



OPTOKON

# Introducing the New OFT-4212-MCMU

The OFT-4212-MCMU is designed to meet the rising demand for higher data rates, supporting **400G, 800G, and 1.6TBASE-SR8/DR8 formats with 16-fiber connectivity using SN-MT connectors**. OPTOKON offers two variants: a **laboratory tester and a manual tester**.

These multi-fiber testers can measure output power from any filament on **Base-12 or Base-16** connectors and support simplex and duplex connections. The OFT series optical power meters ensure testing of LC, MDC, SN, and MPO connections with

exceptional flexibility and accuracy. Additionally, our laboratory testers perform simultaneous insertion loss testing across multiple wavelengths while measuring return loss.

The new OPTOKON instruments cater to all network configurations, from basic setups to emerging systems. The laboratory tester also **connects with QR readers** for enhanced functionality.

We are also introducing a series of handheld testers for field testing Base-12 and Base-16 connectivity. All testers are calibrated in our accredited laboratory, ensuring repeatable and accurate measurements across common connection systems.

# PM-215E Pocket optical power meter/USB probe

The PM 215E optical power meter is a small, pocket size low cost item. The small size does not prevent the optical meter fulfilling all technical requirements for field equipment.The tester can be used as pocket power meter or as an USB probe, part of testing workstation. It can be placed within rack mount ODF's with the display on the top or on the side. The Li-Pol rechargeable battery ensures long term working time with a minimum life time of 2 years.The unit is able to store 100 measurements which can be uploaded to PC and managed with SmartProtocol software or Data Exporter.

- **Portable power meter or USB probe**
- **New faster hardware**
- **Option for Bluetooth or WIFI module**
- **Supports SM and MM fiber testing**
- **More than 20 working wavelengths**
- **Absolute and Relative power measurement**
- **Internal memory for up to 100 measurements**
- **Comes with its own application for setting, data transfer**
- **USB-C port for control, charging, and data transfer**


**NEW DESIGN!**

# LS-215E

The LS-215E optical light source is a small size low cost item which fulfils all necessary technical field equipment requirements. Available in working wavelengths 850/1300 for multimode or 1310/1550 nm for single mode applications or a visible 650 nm laser source. Batteries can be charged via a USB port or external AC/DC adaptor.

The versatile output port facilitates the simple integration of commonly used optical adapters (FC, SC, or ST) in telecommunications, data, and industrial networks. This output port is specifically designed for the connection of connectors with a PC polished finish.


- **Dual wavelength output**
- **Multimode and Single mode version**
- **Smallest size, light weight**
- **Changeable output adapters**
- **USB port: Battery charging**
- **Powered by Li-Pol type battery**
- **Battery status indicator**
- **10 min Auto Off**

**NEW ON THE MARKET!**

# LMSW-E33-242M series

**RUGGEDIZED 1/10 GIGABIT ETHERNET LAYER 2/3 MANAGED POE SWITCH**
**2X 1/10G WAN, FO HMA**
**24X LAN 10/100/1000BASE-T, POE**

OPTOKON´s R&D
SOLUTION TECHNOLOGY INTEGRATOR OF
CISCO SYSTEMS

The OPTOKON® LMSW-E33 ruggedized switch based on Cisco® IE industry technology extends switching capabilities to mobile and embedded networks that operate in extreme environments. The flexible, compact form factor of the switch, powered by Cisco IOS® Software, provides highly secure data,voice, and video communications to stationary and mobile network nodes, making it ideal for use in harsh environmental conditions. 10G fiber optic ports are terminated with HMA “Expanded Beam” connectors, which allows interconnection of the nodes of tactical network by the help of cables with optical fibers. The used “Expanded Beam” technology preservers all advantages of signals transmission through the optical lines in field harsh environmental conditions. The switch supports a variety of management functions, including Web UI, MIB, SmartPort, SNMP, syslog, DHCP server, SPAN session. The switch is able to fit all the common 24 V DC power systems. The switch operates in wide operating temperature range -40 to +70°C. The switch can operate as standalone device or in addition the 19” brackets allow switch installation into 19” rack.


# LMDS Light Mobile Data Switch

The LMDS is a lightweight mobile data switch in a portable frame powered by a built-in UPS. Both devices meet the required IP rating. It can be powered from AC 230 V or DC 24 V mains. For batteries it is possible to monitor their status - transparent window on the cover.

The switch based on the proven Cisco ESS 3300 technology in a ruggedized design meets all requirements for the establishment and operation of mobile data networks.

A 10 Ah battery type BB-2590U serves as a backup power supply. This assembly ensures compatibility on the contemporary battlefield and the unification of charging sources used, for example, in L3Harris FALCON II radios, III and FALCON IV.

- **Ruggedized design for setting up mobile networks**
- **Proven Cisco ESS 3300 technology**
- **2x WAN 1/10G**
- **8x LAN 10/100/1000Base-T(X) with PoE**
- **MRJ-resistant connectors**
- **Reliable, widely used batteries - 2 pcs**
- **Battery status indication**
- **Easy battery replacement during operation**
- **External Power Supply:**
  - **230 V AC from AC generator**
  - **24 V DC from the vehicle‘s on-board power supply**