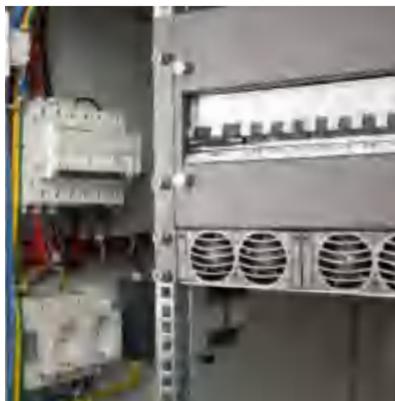
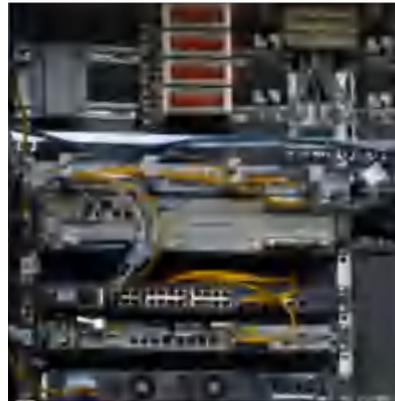


Raycap

Products & Solutions for
Telecommunications Applications



About Raycap



Raycap is a privately-held technology solutions provider offering products and services that support and protect the world's critical telecommunications, energy, transportation and other infrastructure.

Since 1987 Raycap has built a worldwide organization with offices and production facilities throughout Europe and in North America. The company combines advanced engineering, superior product design, systems integration and manufacturing capability with a deep understanding of the needs of the customer to create unique technological solutions for mission-critical applications. It also offers engineering services such as custom product design and site surveys, as well as warehousing, logistics, customer training, and much more.

The company's comprehensive understanding of customer needs and the industries in which they operate is crucial to its ability to develop effective products and solutions that integrate the latest technology with the highest quality of service.

The Raycap team of talented, highly experienced staff works together with customers to find the best-fit solutions. As a result, more than half of the products delivered are custom-built for unique customer applications and to their specifications. From rigorous internal and independent testing to a consultative customer-focused approach, Raycap is determined to deliver the highest quality products with responsiveness, innovation and agility.



Value Proposition

Experts in State of the Art Electrical Protection Solutions

With hundreds of thousands of installations worldwide, Raycap has extensive experience supplying custom solutions for some of the world's largest companies.

Dedication to the Customer

The company's philosophy is to reach a deep understanding of its customers needs and requirements in order to create unique solutions that help minimize operational expenses (OPEX), optimally adjust capital expenditures (CAPEX) and maximize the return on investment.

Constant Product Innovation

Listening to insights from professionals operating the world's largest networks and taking into account the most recent technical standards, Raycap consistently improves, innovates and adapts to its customers feedback, making sure that its solutions are a league ahead of its competitors.

Focus on Quality

To support its demanding global customer base, the company operates the most up-to-date quality management systems. All of its production facilities are certified to ISO 9001 and ISO 14001 standards. All products are tested according to the most rigorous standards and are fully traceable, ensuring a complete vision throughout the product life-cycle and the best possible customer support.

Unparalleled Operational Flexibility

Within extremely short time frames, Raycap is uniquely positioned to design, manufacture and deliver fully customized solutions that meet the specific needs of its customers. Operations personnel are cross-trained at each location and the company is capable of working around the clock to design, prototype, develop and manufacture quick product turnarounds.





Rooftop wireless site

FTTA/PTTA Products & Solutions

Raycap has led the way in the development of advanced connectivity solutions for the FTTA/PTTA wireless network infrastructure.

In order to support any site scenario, Raycap offers complete FTTA/PTTA site solutions to wireless operators, including:

- Fiber-optic, power, and hybrid cables
- Fiber-optic, power and hybrid distribution enclosures
- Fiber-optic, power and hybrid boxless solutions
- Site installation accessories
- Lightning and overvoltage protection solutions that can be integrated with the cable infrastructure and provide various levels of protection, depending upon specific site conditions and requirements.



Raycap FTTA/PTTA solutions



Deploying Raycap solutions at critical points in the telecommunications network enables and protects mission-critical equipment from damaging electrical surges and ensures the reliability of the network.

No other company comes close to Raycap for the sheer number of successfully deployed solutions in FTTA/PTTA site architectures. With more than 400,000 site installations worldwide, Raycap is the recognized industry expert in designing weather-proof connectivity solutions with lightning protection for next generation wireless networks. Raycap solutions benefit from the insight of many years of experience gained from operators who are currently deploying their FTTA/PTTA solutions in the field.



Raycap RayLink TC solutions



Raycap's FTTA/PTTA solutions are used at rooftop, tower top and shelter applications.

Cabinet & PSU Solutions



Outdoor cabinet for mobile applications

Raycap's cabinet and power supply solutions can accommodate active equipment for mobile and broadband services, battery banks, distribution systems, etc.

From product design to in-the-field operation, Raycap has extensive mechanical, electrical and fiber-optic engineering expertise coupled with operational experience throughout the life cycle of telecommunications cabinet system projects.

Raycap's cabinet systems are fully customized to each customer's specific requirements while at the same time meeting the highest quality and production consistency standards.

Raycap's expertise is not limited to the construction of metal housings, but includes as well, the integration of all necessary components in the cabinet so as to provide a complete ready-to-install tested solution that will deliver OPEX savings.

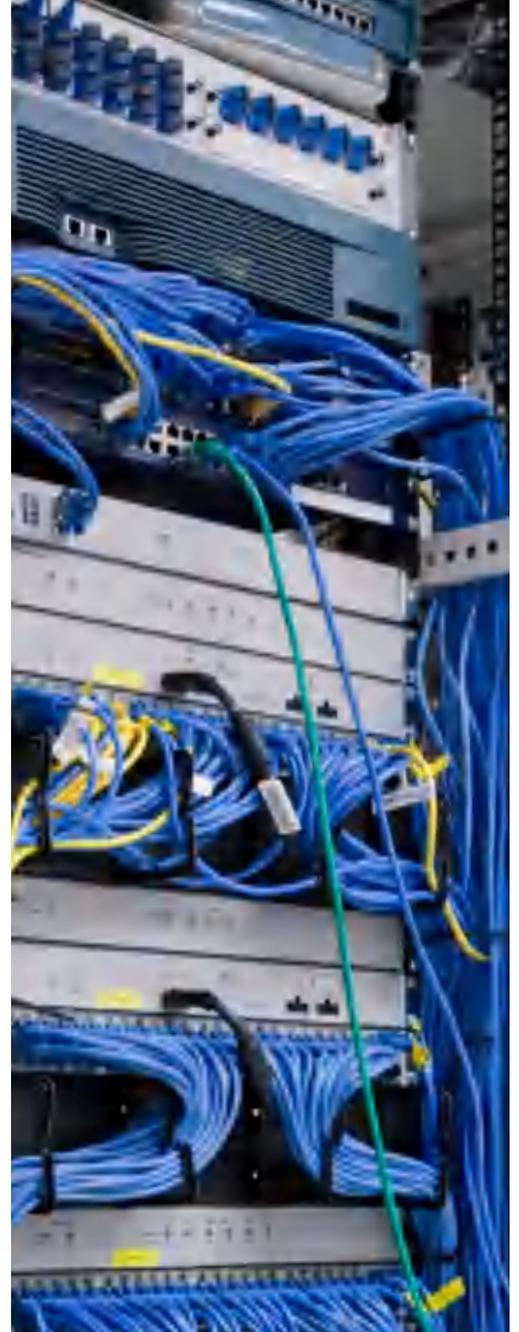


Raycap has been producing and providing customized telecom cabinets for customers for the past 25 years. You can count on Raycap to deliver the cabinets you need on time and to your exact specifications.



Cabinet Main Characteristics

- High quality materials
- Excellent mechanical strength
- Robust structure for demanding environments
- Corrosion resistance and long operational life
- Indoor or outdoor configuration
- Simple installation, lightweight construction and easy to transport
- Future-proof: network upgrades, technology changes, swaps, etc. without affecting system operation
- Optional features like bespoke thermal and acoustic management systems, heater, sensors, customized locking systems, anti-vandalism systems, among many others.



Strikesorb® Surge Protection Technology



Raycap has led the way in finding creative protection solutions that ensure its customers' vital equipment does not experience downtime due to lightning or other power surge events. The company has made significant R&D and operational investments to develop and validate its unique Strikesorb Surge Protective Device (SPD) to meet global safety standards.

The innovative Strikesorb technology has been engineered and tested for use in AC and DC power applications. Strikesorb modules are compliant to IEC 61643-11 and the UL 1449 4th Edition safety standards.



Strikesorb family of products



Strikesorb Benefits

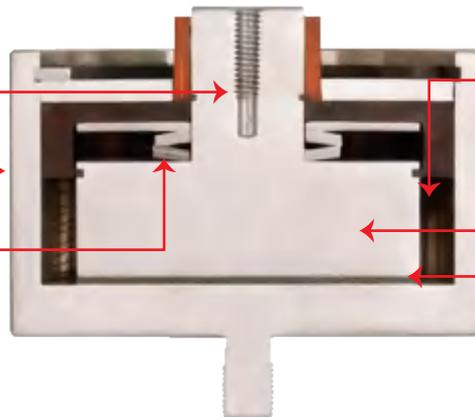
- **Patented Technology**—Strikesorb features an innovative SPD design that ensures continuous protection and eliminates all the failure and safety risks related to conventional SPDs.
- **Maintenance Free**—Strikesorb's fuse-less operation, its unparalleled performance against power surges and its immunity to TOV conditions make it the most reliable SPD for protection of the entire installation, and eliminates the need for maintenance and replacement parts.
- **High Surge Current Withstand Capability**—Strikesorb incorporates a wide distribution grade MOV disk kept under pressure between large aluminum electrodes, enabling effective thermal dissipation and excellent management of the surge currents' negative effects. Strikesorb can actually withstand thousands of repetitive surge events without degradation.
- **High Short-Circuit Current Rating**—Strikesorb's inherent capacity to resist high short-circuit currents enables flexible integration into industrial systems and "in-line" installation in all common AC and DC applications without the need for a dedicated fuse.

Strikesorb's unique design features a distribution grade metal oxide varistor (MOV) that can handle much larger surges without effecting performance.

Large Thermal Capacity Electrodes

Strong Aluminium Housing

1500+ Pounds of Pressure



No Fuel to Burn

Low Dynamic Resistance & Low Residual Voltage

Single Distribution-Grade Varistor - No Parallel MOVs

Rayvoss Systems

With Strikesorb surge protection at their core, Rayvoss industrial solutions offer unsurpassed electrical protection that meets the requirements of telecommunications, power generation, defense, transportation and other mission-critical applications. Rayvoss systems can be customized with a variety of operating voltages, configurations and cabinets, conforming to industry standards and certifications.

- **Best overall protection for the installation**— Strikesorb's capability to be installed "in-line" even in the case of very high short-circuit currents, eliminates the need for long cable lengths, results in the lowest possible let-through voltage and ensures optimum protection levels. The sensitive equipment remains continuously protected in the most efficient way possible.
- **Safest SPD**— Strikesorb's aluminum casing and internal components manage the heat generated within the device when multiple lightning surges or faulty operating conditions occur. Its design eliminates the use of any materials which could burn or smoke.
- **International Standards Certified Compliance**— Strikesorb modules have been tested and approved by internationally accredited independent laboratories to the latest IEC and UL safety and performance standards.
- **Long Lifespan and Warranty**— Strikesorb's expected lifetime is much more than 20 years; it is supplied with a 10 year limited lifetime warranty.

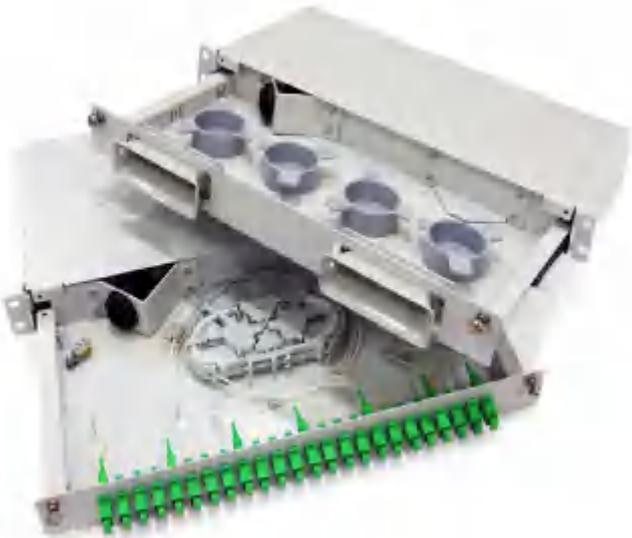


The Rayvoss family of products is designed to protect any telecommunications application



Fiber-Optic Products

Optical fiber technologies' role is to ensure that cost-effective network traffic scaling can continue to enable future communications services as an underpinning of today's digital information society.



Fiber-optic products



Raycap provides a broad range of fiber-optic products for the telecommunications market.



Raycap is well experienced in designing fiber-optic cabling and connectivity systems. Whether it is access, back-haul, or core network location, Raycap can advise and provide the most suitable products and solutions.





Wireless networks

Telecom Applications

Fixed & Wireless Telecommunications

Not only has Raycap successfully supported the most demanding mobile network rollouts in the largest networks in North America and in Europe, but most connectivity solutions are highly customized to each customer's specific requirements.

Similarly, Raycap provides the crucial elements in the ADSL copper and fiber-optic networks required by broadband generalization (FTTx networks).



Active outdoor cabinet

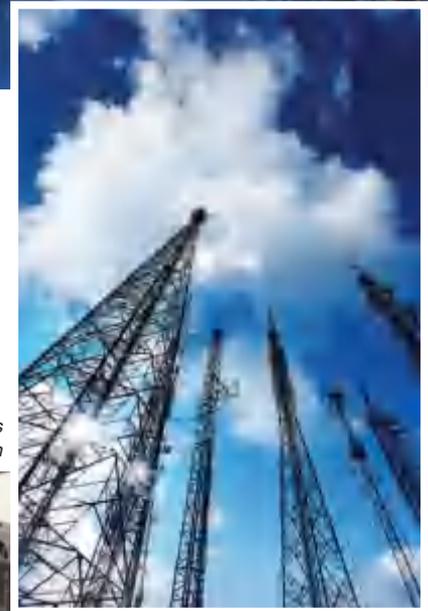


Raycap's extensive experience in providing fixed and wireless telecommunications equipment offers customers peace of mind and a partner they can trust.

Emergency networks



Data center server rooms



Communications antenna farm

Professional and Emergency Networks & Data Centers

Raycap's connectivity and electrical protection solutions are ideally suited for high reliability and mission-critical networks such as emergency/professional communications network like TETRA and GSM-R, or data center.

The robust nature of Raycap products ensures they will stand up to any harsh environmental conditions, and their high reliability means they will continue to protect mission critical systems for the long run.

R&D Capabilities

Successful custom engineering solutions require three ingredients: Expertise, the proper testing facilities and access to the best prototype equipment available. Raycap has all three. Experience has shown that each application has different requirements, and thus more than 50% of all Raycap design projects have been developed as custom solutions. Raycap's global design team is responsive to requests no matter the complexity of the problem or geographical region.

Manufacturing Capabilities

Raycap has created a global manufacturing organization that is capable of meeting the most demanding requirements of the most discerning customers.

The company has a well-developed ISO quality system and disaster recovery strategies that focus on uninterrupted global supply. Not only can Raycap handle large customer volumes and roll-outs, but it specializes in custom manufacturing.

In order to best serve its customers, the company has invested in modern manufacturing processes and facilities located in:

- Munich, Germany
- Post Falls, Idaho, USA
- Drama, Greece
- Ljubljana, Slovenia
- Nicosia, Cyprus
- Bucharest, Romania
- Suzhou, China

Raycap's products are certified by global standards bodies and the company's testing facilities include IEC and VDE certified R&D labs in Europe, and a UL certified test lab in the United States.





Raycap
UL 1449 4th ed. IEC 61643-11 (ed. 1.0)
EN 61643-11:2012

Type	2	Class I	
MCOV	480V	Uc	480V AC
Freq	50/60Hz	Iimp	25kA (10/350)
In	20kA	Usp	1600V
VPR	1500V		

Electrical Ratings

Raycap
UL 1449 4th ed. IEC 61643-11 (ed. 1.0)
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In	20kA	Usp	1600V
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Electrical Ratings

Raycap Worldwide Locations



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United States of America

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85748 Garching Munich
Germany

Raycap S.A.
Telou & Petroussou 14
15124 Maroussi Athens
Greece

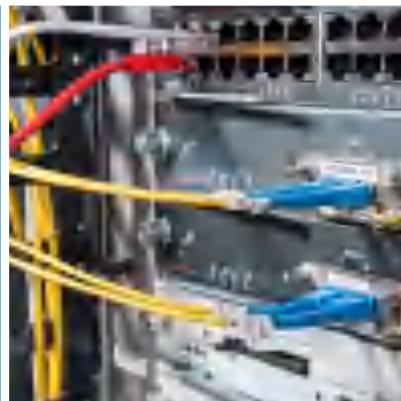
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Greece

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