

Government Network Connectivity Solutions



www.omnitron-systems.com

About Omnitron Systems

Omnitron Systems designs and manufactures fiber media converters for Ethernet, Power-over-Ethernet (PoE), Single Pair Ethernet, Serial, and TDM protocols, as well as Ethernet and PoE switches, demarcation devices and WDM and TDM multiplexers that are deployed in thousands of networks worldwide.

Omnitron's network connectivity products can integrate various cabling types, extend network distances, inject PoE / PoE+ / PoE++ and expand fiber capacity.

Market Segments

- Enterprise and SMB
- Federal, State and Municipal Government
- Education (K-12 and Higher Learning)
- Building and Factory Automation
- Transportation (Highway, Toll, Railway, Airports)
- Security surveillance and WiFi
- Data Center and Cloud
- Service Provider and Cable MSO
- Wireless, small cell and mobile backhaul
- Utility, Oil and Energy



Omnitron has built a reputation of delivering reliable products for mission critical networks. Every employee at Omnitron is involved in delivering high-quality, user-oriented fiber access solutions. By building strong relationships with our end-users and understanding the challenges they face, Omnitron engineers design products and features that provide value to our customers.

Made in The USA

All Omnitron products are manufactured in the United States, and are TAA, BAA, NDAA and UKCA Compliant.

Free Network Design and 24/7 Technical Support

Omnitron's highly-trained pre-sales support staff, account managers, and technical support staff have the experience to provide solutions that are effective, practical and economical.

Quality Statement

Omnitron Systems is committed to providing quality products and services that continually meet and exceed customer expectations. Omnitron's products comply with rigorous quality standards, including NEBS Level 3, FCC and UL certifications. This quality is achieved and improved through quality control policies and procedures.

Standards Compliance

Omnitron is dedicated to full and comprehensive compliance with ITU-T, IEEE, RFC and MEF network industry standards. Comprehensive standards compliance ensures full feature functionality and multi-vendor interoperability in complex network environments.

Environmental Compliance

Omnitron products are RoHS, WEEE and REACH compliant and manufactured to address the use of chemical substances, and their potential impacts on both human health and the environment.

Omnitron's initiative to comply with environmental directives includes design for environment, reduction in the use of hazardous materials, recycling, and supplier responsibility.

Services and Compliance



Government Customers



Government Contractors



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Omnitron Products

PoE/PoE+/PoE++ 60W & 100W Switches
PoE Media Converters, Extenders, and Injectors



Industrial PoE/PoE+/PoE++ 60W & 100W
Switches and Extenders



Managed Media Converters
CWDM and T1/E1 Multiplexers



Unmanaged Ethernet
T1/E1, Serial Media Converters



Miniature fiber to Copper
Ethernet Media Converters



XFP, SFP+ and SFP Transceivers
Standard, CWDM and DWDM Wavelengths



To assist in the selection of products, features, speed and management type,
[Click here to access our Product Selection tool](#)

RuggedNet® Industrial Power over Ethernet Switches

RuggedNet 10/100/1000 and Multi-gigabit Power over Ethernet Switches enable distance extension over fiber optic cabling to PoE, PoE+, HPoE 60W and IEEE 802.3bt (60W and 100W) Powered Devices (PDs). Classified as Power Sourcing Equipment (PSE), RuggedNet industrial PoE Switches can provide full power to up to eight Powered Devices using standard UTP cables that carry the Ethernet data.

1G Industrial PoE Switches



RuggedNet GPoE+/Mi (Managed)
RuggedNet GPoE+/Si (Unmanaged)

10/100/1000 (PSE) Copper
1000 Fiber or
10/100/1000 Copper



RuggedNet GHPoEBT/Mi (Managed)
RuggedNet GHPoEBT/Si (Unmanaged)

10/100/1000 (PSE) Copper
1000 Fiber or
10/100/1000 Copper

10G Industrial PoE Switches



RuggedNet 10GPoE+/Mi (Managed)
RuggedNet 10GPoE+/Si (Unmanaged)

10/100/1000 (PSE) Copper
1G/10G Fiber



RuggedNet 10GPoEBT/Mi (Managed)
RuggedNet 10GPoEBT/Si (Unmanaged)

10/100/1000 (PSE) Copper
1G/10G Fiber

10G Industrial Multi-Gigabit/Multi-Rate PoE Switches



RuggedNet 10GMGPoE+/Mi (Managed)
RuggedNet 10GMGPoE+/Si (Unmanaged)

10/100/1000 (PSE) Copper
10G Fiber or
Multi-Rate Copper



RuggedNet 10GMGPoEBT/Mi (Managed)
RuggedNet 10GMGPoEBT/Si (Unmanaged)

10/100/1000 (PSE) Copper
10G Fiber or
Multi-Rate Copper

RuggedNet® Industrial Ethernet Switches

RuggedNet Industrial Ethernet Switches feature one or two fiber uplink ports and up to eight power-sourcing 10/100/1000 RJ-45 ports, or 2x 10/100/1000 and 2 x 100M/1G/2.5/5G/10G Multi-gigabit RJ-45 ports, and are available as unmanaged or managed models.

1G Industrial Switches



RuggedNet G/Mi (Managed)
RuggedNet G/Si (Unmanaged)

10/100/1000 Copper
1000 Fiber or
10/100/1000 Copper

10G Industrial Switches



RuggedNet 10G/Mi (Managed)
RuggedNet 10G/Si (Unmanaged)

10/100/1000 Copper
1G/10G Fiber

10G Industrial Multi-Gigabit/Multi-Rate Switches



RuggedNet 10GMG/Mi (Managed)
RuggedNet 10GMG/Si (Unmanaged)

10/100/1000 Copper
10G Fiber or
Multi-Rate Copper

RuggedNet® Industrial PoE Extenders

RuggedNet PoE Extenders function as both a Powered Device (PD) and Power Sourcing Equipment (PSE), and require no external AC power. They feature one PoE/PD port and one or two PoE/PSE ports, and can be powered by an IEEE 802.3at or High-Power PoE 60W switch.

1G Industrial PoE+ Extenders



RuggedNet GXPoE+/Si

10/100/1000 (PSEor PD) Copper
10/100/1000 Copper

1G Industrial HPoE Extenders



RuggedNet GXHPoE/Si

10/100/1000 (PSEor PD) Copper
10/100/1000 Copper

OmniConverter® PoE Switches, Media Converters, Extenders and Injectors

OmniConverter Enterprise PoE Switches and PoE Media Converters provide network distance extension over fiber optic cabling to PoE Powered Devices (PDs). Classified as Power Sourcing Equipment (PSE), OmniConverter compact PoE switches and PoE media converters can provide PoE, PoE+, HPoE, and IEEE 802.3bt using standard UTP cables that carry the Ethernet data. OmniConverter PoE Extenders and Injectors provide cost-effective distance extension over copper UTP cabling to remote PoE, PoE+ and HPoE devices where external power is not available or hard to provision.

OmniConverter® PoE Switches

OmniConverter PoE Switches are available as unmanaged or managed models. Managed model shown below.

1G PoE Switches



OmniConverter GPoE+/M (Managed)
OmniConverter GPoE+/Sx (Unmanaged)

10/100/1000 (PSE) Copper
1000 Fiber or
10/100/1000 Copper



OmniConverter GHPoEBT/M (Managed)
OmniConverter GHPoEBT/Sx (Unmanaged)

10/100/1000 (PSE) Copper
1000 Fiber or
10/100/1000 Copper

10G PoE Switches



OmniConverter 10GPoE+/M (Managed)
OmniConverter 10GPoE+/Sx (Unmanaged)

10/100/1000 (PSE) Copper
1G/10G Fiber



OmniConverter 10GPoEBT/M (Managed)
OmniConverter 10GPoEBT/Sx (Unmanaged)

10/100/1000 (PSE) Copper
1G/10G Fiber

10G Multi-Gigabit/Multi-Rate PoE Switches



OmniConverter 10GMGPoE+/M (Managed)
OmniConverter 10GMGPoE+/Sx (Unmanaged)

10/100/1000 (PSE) Copper
10G Fiber or
Multi-Rate Copper



OmniConverter 10GMGPoEBT/M (Managed)
OmniConverter 10GMGPoEBT/Sx (Unmanaged)

10/100/1000 (PSE) Copper
10G Fiber or
Multi-Rate Copper

OmniConverter® Ethernet Switches

OmniConverter Compact Ethernet Switches feature one or two fiber uplink ports and up to eight power-sourcing 10/100/1000 RJ-45 ports, or 2x 10/100/1000 and 2 x 100M/1G/2.5/5G/10G Multi-gigabit RJ-45 ports, and are available as unmanaged or managed models. Managed models are shown below.

1G Switches



OmniConverter G/M (Managed)
OmniConverter G/Sx (Unmanaged)

10/100/1000 Copper
1000 Fiber or
10/100/1000 Copper

10G Switches



OmniConverter 10G/M (Managed)
OmniConverter 10G/Sx (Unmanaged)

10/100/1000 Copper
1G/10G Fiber

10G Multi-Gigabit/Multi-Rate Switches



OmniConverter 10GMG/M (Managed)
OmniConverter 10GMG/Sx (Unmanaged)

10/100/1000 Copper
10G Fiber or
Multi-Rate Copper

OmniConverter® PoE Media Converters

OmniConverter unmanaged PoE media converters enable distance extension over fiber optic cabling to PoE Powered Devices (PDs). Classified as Power Sourcing Equipment (PSE), OmniConverter media converters support PoE (15.4W), PoE+ (30W) and IEEE 802.3bt (60W and 100W).

Fast Ethernet PoE/PoE+ Media Converters



OmniConverter FPoE+/SE

10/100 (PSE) Copper
100 Fiber or 10/100 Copper



OmniConverter FPoE+/S

10/100 (PSE) Copper
100 Fiber or 10/100 Copper

Gigabit Ethernet PoE/PoE+ and PoEBT Media Converters



OmniConverter GPoE+/SE

10/100/1000 (PSE) Copper
1000 Fiber or
10/100/1000 Copper



OmniConverter GPoE+/S

10/100/1000 (PSE) Copper
1000 Fiber or
10/100/1000 Copper



OmniConverter GPoEBT/S

10/100/1000 (PSE) Copper
1000 Fiber or
10/100/1000 Copper

10 Gigabit Ethernet PoE/PoE+ and PoEBT Media Converters



OmniConverter 10GPoE+/S

Multi-gigabit/multi-rate (PSE) Copper
1G/10G Fiber



OmniConverter 10GPoEBT/S

Multi-gigabit/multi-rate (PSE) Copper
1G/10G Fiber

OmniConverter® PoE Extenders and Injectors

OmniConverter PoE Extenders function as both a Powered Device (PD) and Power Sourcing Equipment (PSE), and require no external AC power. They feature one PoE/PD port and one or two PoE/PSE ports, and can be powered by an IEEE 802.3at or High-Power PoE 60W switch.

OmniConverter Injectors provide cost-effective distance extension and connectivity to remote PoE devices where external power is not available or hard to provision, or when replacing copper with fiber becomes cost prohibitive.

1G PoE Extender



1G PoE Injector

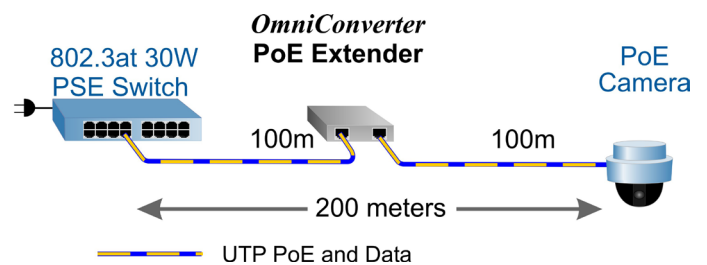
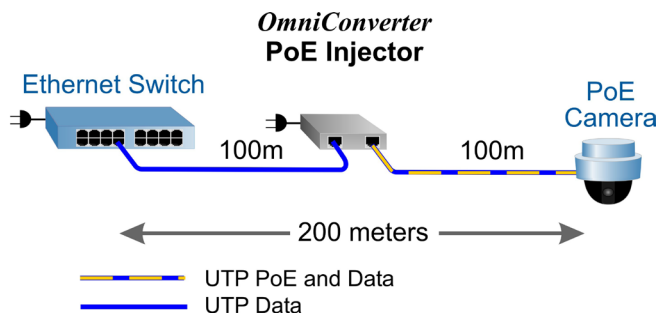


OmniConverter GXPoE+/S and GXHPoE/S

10/100/1000 (PSE or PD) Copper
10/100/1000 Copper

OmniConverter GPoE+/I

10/100/1000 (PSE) Copper
10/100/1000 Copper



iConverter® Multi-Service Platform

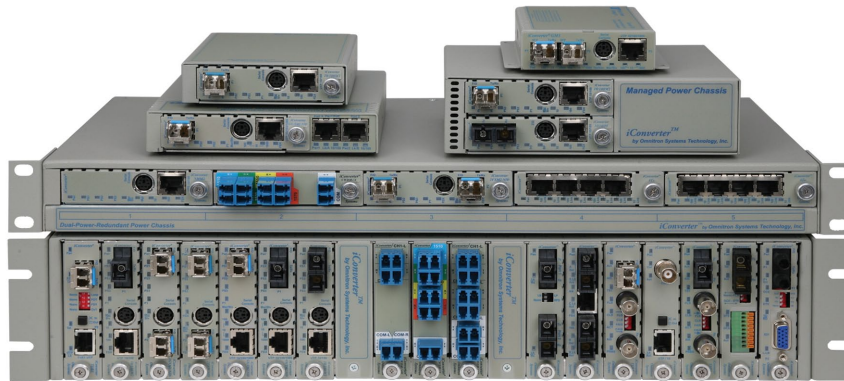
The modular iConverter Multi-Service Platform of media converter, transponder and multiplexer modules can be combined in a variety of chassis configurations to provide a managed, flexible and scalable architecture for today's evolving fiber networks. Network managers can leverage investments in existing infrastructure and deliver new services, protocols and data rates over fiber, and multiplex different services over a CWDM common fiber link.

Protocols and Data Rates

10 Ethernet, 100 Ethernet, 10/100 Ethernet
10/100/1000, Gigabit Ethernet
10 Gigabit Ethernet
PoE/PoE+, and High-Power PoE
10G OTN (G.709)
T1/E1, T3/DS3/E3
OC3, OC12, OC48, OC192
RS-232/422/485/530, X.21
Fibre Channel
Protocol Transparent
CWDM

Features

Lifetime Warranty on most products
Free 24/7 Technical Support
Made in the USA
Temperature Hardened
SNMP v3 Management
Scalable Architecture
NEBS Level 3 certified
UL, CE and FCC compliant
ROHS and WEEE compliant



Managed Copper-to-Fiber Media Converters

iConverter managed copper-to-fiber media converters provide seamless integration of copper and fiber optic cabling, and support a wide variety of network protocols, data rates and cabling media types. iConverter media converters can be used in managed or unmanaged networks. The iConverter media converters are part of a Multi-Service platform that includes transponders, CWDM multiplexers and Carrier Ethernet demarcation devices. iConverter media converters are backed with a lifetime warranty and free 24/7 technical support.

Managed Fiber-to-Fiber Media Converters

iConverter managed fiber-to-fiber media converters provide multimode to single-mode conversion, dual fiber to single fiber conversion, and fiber distance extension. iConverter protocol-transparent transponders provide standard wavelength to WDM wavelength conversion. iConverter fiber-to-fiber converters can be used in managed or unmanaged networks. iConverter copper-to-fiber media converters are also available. All Omnitron Systems media converters are backed with a lifetime warranty and free 24/7 technical support.

Optical Multiplexers

iConverter CWDM Multiplexers/Demultiplexers and Add/Drop Multiplexers increase the bandwidth capacity of existing single-fiber or dual fiber infrastructure by multiplexing up to sixteen independent wavelengths over a fiber optic connection. The modular iConverter CWDM MUX products utilize a small and scalable plug-in form factor and can be installed in any iConverter chassis, achieving some of the highest port densities in the industry.

T1 Multiplexers

iConverter T1/E1 MUX products multiplex up to sixteen independent T1/E1 circuits and Ethernet from copper links onto a fiber link, CWDM wavelength or Ethernet Virtual Connection (EVC). Designed for mobile backhaul, and T1 demarcation extension up to 120km, iConverter T1/E1 multiplexers are available in modular or fixed chassis configurations with 4, 8, 12 or 16 T1/E1 ports.

Ethernet Switches

The iConverter Multi-Service Platform also features four-port switch modules, redundant-link Ethernet media converters, and UTP to coax media converters. iConverter 10/100 and 10/100/1000 switch modules are managed four-port Ethernet switches that can be installed in a variety of chassis configurations with backplane connectivity to other iConverter modules.

SNMP Management Software

The iConverter management system provides the ability to remotely monitor network performance, configure hardware parameters and perform fault detection. The iConverter Multi-Service Platform and network interface devices can be managed with NetOutlook® SNMP Network Management Software.



FlexPoint® Unmanaged Media Converters

FlexPoint media converters are compact network devices that provide unmanaged copper-to-fiber and fiber-to-fiber media conversion. FlexPoint media converters support a variety of network protocols, data rates and cabling media types for flexible fiber network connectivity.



10Mbps Copper to Fiber Media Converters



FlexPoint 10T/2

10 Copper
10 Coax



FlexPoint 10FL/T

10 Copper
10 Fiber

100Mbps Copper to Fiber Media Converters



FlexPoint 10/100

10/100 Copper
100 Fiber



FlexPoint 100Fx/Tx

100 Copper
100 Fiber

1000Mbps Copper to Fiber Media Converters



FlexPoint Gx

1000 Copper
1000 Fiber



FlexPoint GX/T

10/100/1000 Copper
100/1000 Fiber

Fiber to Fiber Media Converters



FlexPoint 100FF

100Mbps
Fiber to Fiber



FlexPoint 1000FF

1000Mbps
Fiber to Fiber



FlexPoint OC3FF

155Mbps
Fiber to Fiber



FlexPoint OC12FF

622Mbps
Fiber to Fiber

Serial and TDM Media Converters



FlexPoint T1/E1

1.544M Copper
100 Fiber



FlexPoint 232

115,200 baud Copper
100 Fiber

miConverter® Miniature Ethernet Media Converters

miConverter miniature Ethernet media converters provide cost-effective integration of copper and fiber optic cabling. miConverter miniature unmanaged media converters can be powered with a USB power cable, with Power over Ethernet, or with external DC power adapters.



S-Series Ultra Compact Media Converters



miConverter S/FXT

10/100/1000 Copper
100 Fiber



miConverter S/GXT

10/100/1000 Copper
1000 Fiber



Miniature Unmanaged Media Converters



miConverter 10/100

10/100 Copper
100 Fiber



miConverter Gx

1000 Copper
1000 Fiber



miConverter GX/T

10/100/1000 Copper
100/1000 Fiber

PoE-Powered Media Converters



miConverter 10/100 PoE/PD

10/100 (PD) Copper
100 Fiber



miConverter GX/T PoE/PD

10/100/1000 (PD) Copper
100/1000 Fiber

XFP, SFP+ and SFP Transceivers

Omnitron Small Form Pluggable (SFP) Optical Transceivers are interchangeable, compact media connectors. They enable a single network device to connect to a wide variety of fiber and copper cable types and distances.

SFP Optical Transceivers reduce network equipment inventories by eliminating the need to maintain surplus modules of various media types for network repairs or upgrades. They also enable network upgrades and growth by providing interchangeable fiber and copper connectors that can easily adapt to and modify any existing network.

SFP Transceivers with Standard and CWDM Wavelengths



- Compliant with IEEE 802.3u Fast Ethernet
- Compliant with IEEE 802.3z Gigabit Ethernet
- Data rates for SONET OC-3/12/48
- Data rates for SDH STM-1/4/16
- Data rates for Fiber Channel x1/x2
- Compliant with MSA SFF-8472 and INF-8074i-1
- Simplex (BiDi), Duplex LC/UPC and RJ-45 models
- Supports Digital Diagnostic capability

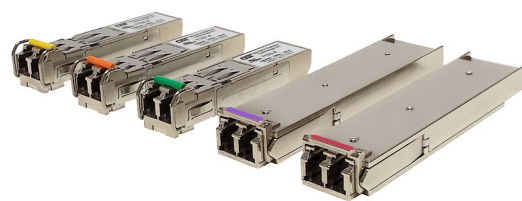


- Compliant with IEEE 802.3u Fast Ethernet
- Compliant with IEEE 802.3z Gigabit Ethernet
- Compliant with MSA SFF-8472
- CWDM wavelengths defined by ITU-T G.694.2
- Digital Diagnostic capability

XFP, SFP+ and SFP Transceivers with Standard and CWDM/DWDM Wavelengths



- Compliant with IEEE 802.3ae 10Gbps Ethernet
- Copper RJ-45 SFP+ Transceivers
- Supports 10G/5G/2.5G/1G/100Mbps data rates
- Compliant with IEEE 802.3bz
- Compliant with SFF-8431, SFF-8432
- Compliant with SFF-8472 MSA
- Supports Digital Diagnostic capability



- Compliant with IEEE 802.3ae 10Gbps Ethernet
- CWDM wavelengths defined by ITU-T G.694.2
- DWDM per ITU Grid C-Band, 100GHz - spacing
- Compliant with MSA SFF-8472
- Digital Diagnostic capability

RuggedNet PoE Switch Applications

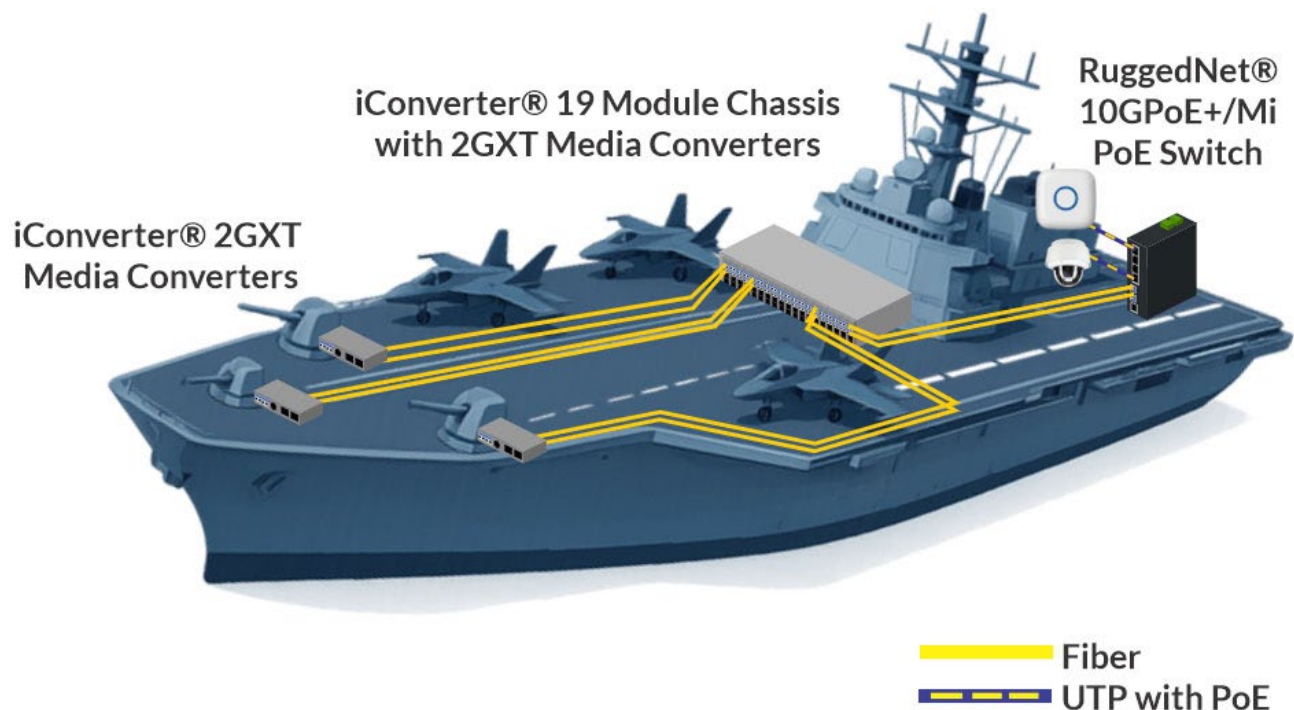
Fiber Optic and PoE Networks in Naval Destroyers

Modern naval vessels demand highly reliable and secure networks that integrate navigation, weapons control, surveillance, and shipboard communications.

A combination of products are used to provide a seamless communication system on board the ship.

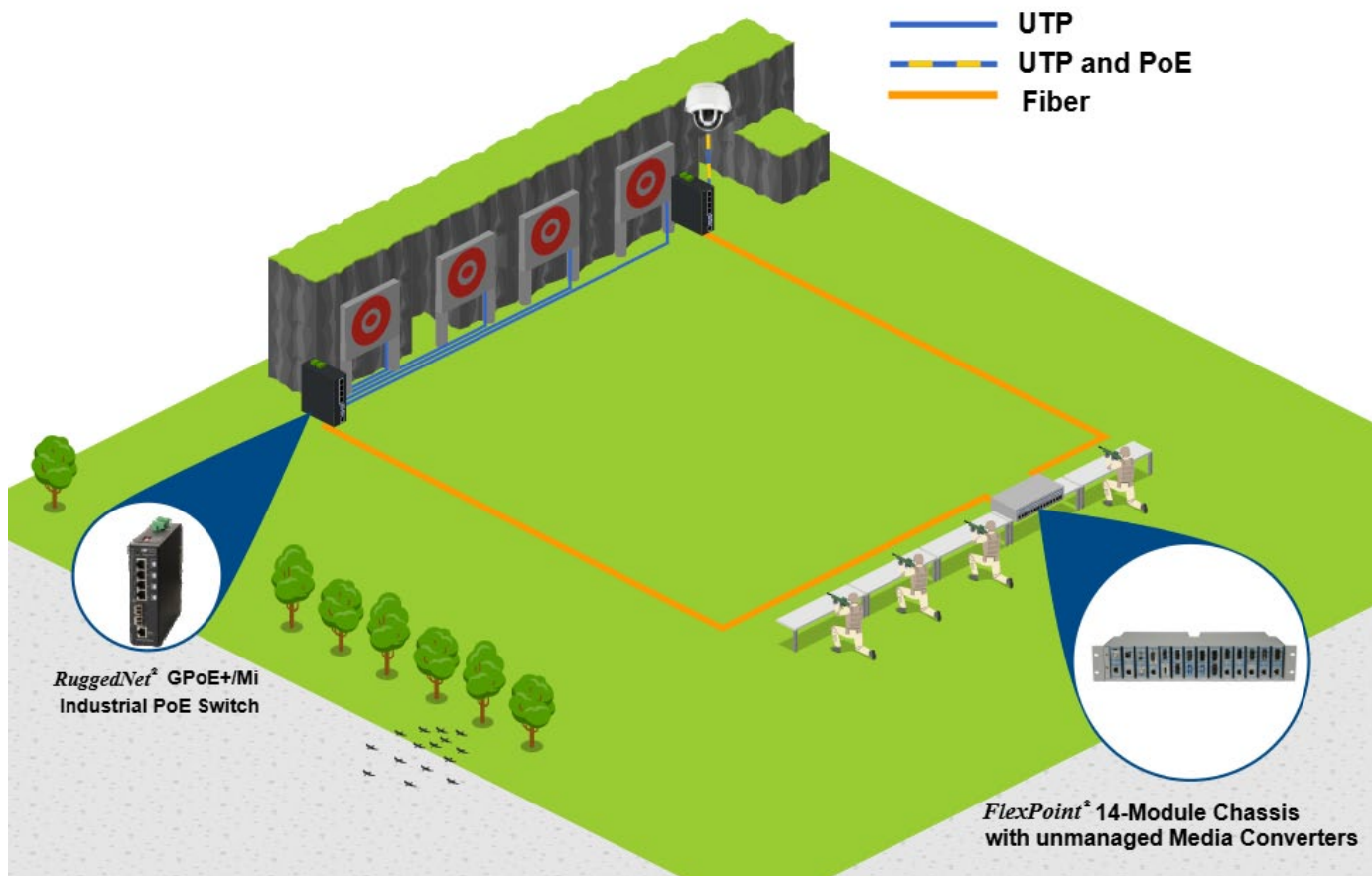
A 19-Module iConverter chassis located in the central network room with dual channel 2GXT gigabit media converter installed provides a managed fiber-to-copper conversion and redundant pathways for critical command-and-control systems. Temperature hardened standalone 2GXT media converter are deployed near weapons and firing control systems, enabling direct point-to-point fiber extensions and protocol conversion at the edge. RuggedNet 10GPoE+/Mi Industrial PoE Switches are distributed across the ship to power and connect IP cameras, wireless access points, and access control systems.

This combined solution provides a resilient and reliable fiber backbone, delivering PoE+ and Ethernet to restricted compartments across the ship.



Firing Range Application

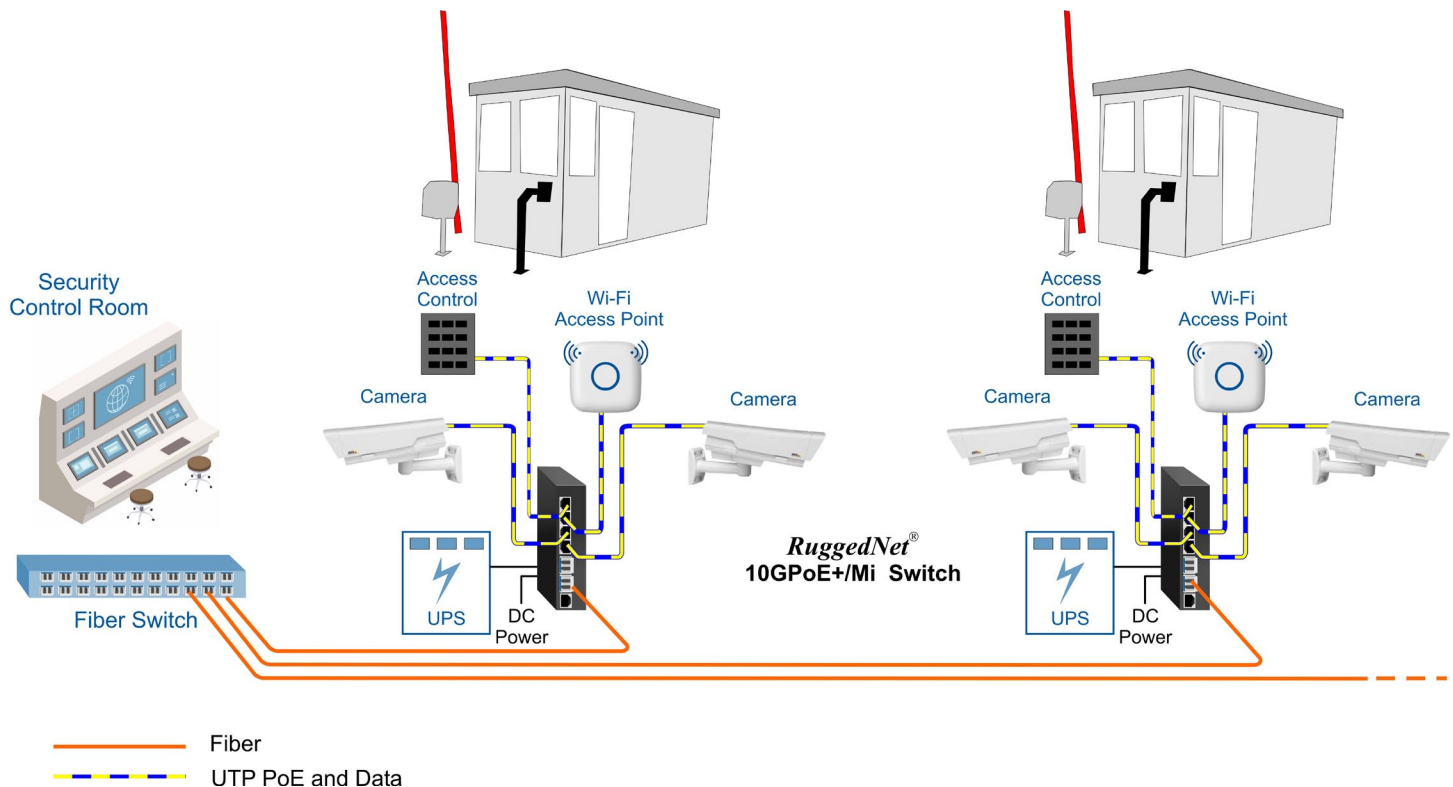
A military firing range deploys a high-density chassis containing fourteen copper-to-fiber FlexPoint media converters to extend secure data links across the range. The fiber backbone connects to a RuggedNet GPoE+ industrial-temperature PoE+ switch, which delivers power and data to distributed digital targeting sensors. This architecture provides long-distance, EMI-immune connectivity and reliable power for precision scoring systems, ensuring accurate, real-time target feedback in harsh outdoor environments.



Perimeter Security Application

The RuggedNet 10GPoE+/Mi switch delivers fiber uplinks with 10Gbps uplink capability for high-speed data backhaul from the guard shack to the Security Control Room. Each 4-Port RuggedNet switch delivers up to 25W of IEEE 802.3af/at compliant PoE power to WiFi access points, access control devices and cameras simultaneously. The RuggedNet switches have dual DC power connectors used to provide a primary and secondary DC power source. A UPS battery is connected to the secondary DC input to provide backup power in case of a power failure.

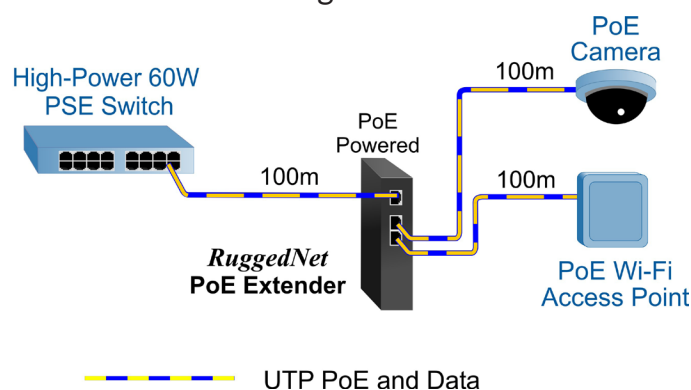
The switch supports VLAN configurations, allowing the separation of surveillance traffic from public Wi-Fi and access control, ensuring both network segmentation and security. RuggedNet 10GPoE+/Mi switch has dual redundant DC power inputs to maintain uninterrupted operation even if one power source fails.



RuggedNet PoE Extender Application

PoE Extender with Two Powered Devices Application

This example shows a RuggedNet PoE Extender with two PoE/PSE ports powering an 802.3af camera and an 802.3at Wi-Fi Access Point 200 meters from the High-Power PoE 60W PSE switch.



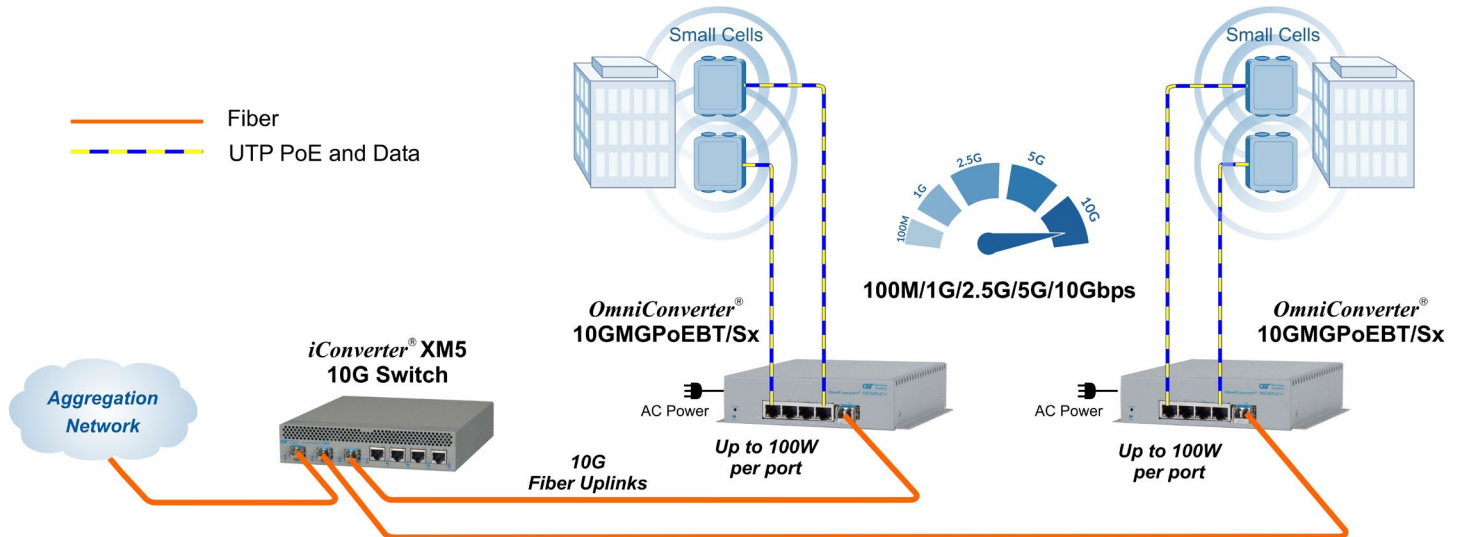
OmniConverter PoE Switch Application

High Speed Small Cell Application

Small cell devices are increasing their demand on both power and bandwidth requirements. Speeds of 10Gbps and 100W is common with today's small cell devices.

In this application example, high-speed small cell devices requiring up to 10Gbps bandwidth are deployed inside several buildings. An iConverter® XM5 aggregation fiber switch is used to distribute a fiber link to each OmniConverter switch.

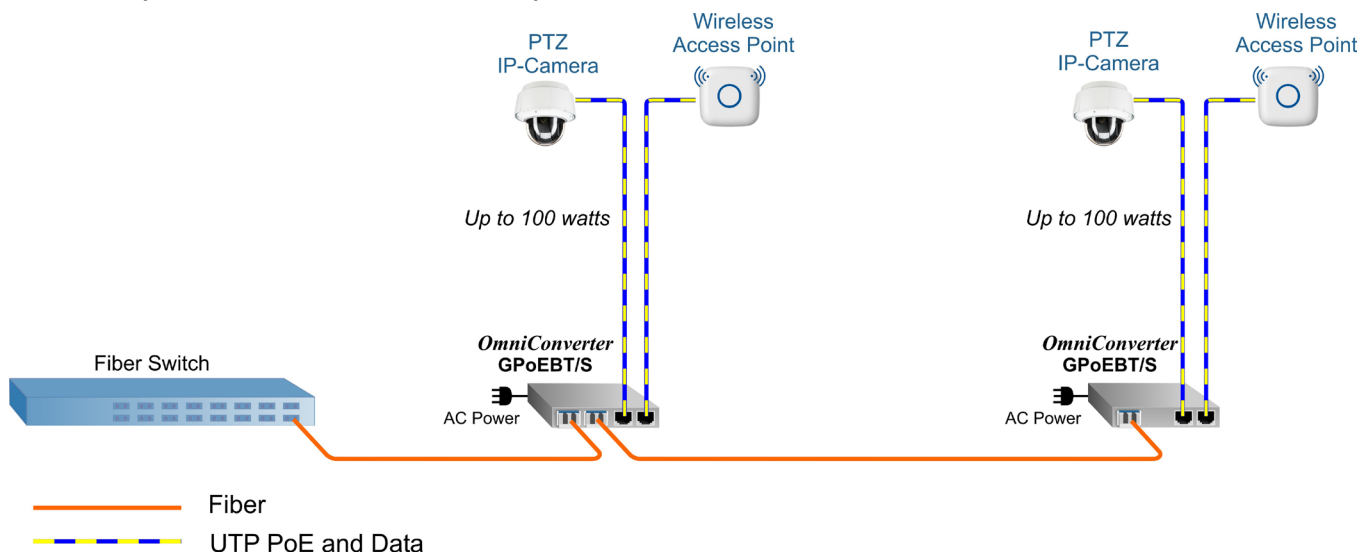
The OmniConverter 10GMGPoEBT/Sx switches provide up to 100 watts and speeds up to 10Gbps on the RJ-45 user ports.



OmniConverter PoE Media Converter Application

Government Security Application

In this application example, outdoor IP surveillance cameras and Wireless Access Points are installed throughout a large government facility. A network switch with fiber ports is used to distribute a fiber link from a control room to a OmniConverter media converter with dual fiber ports. The second fiber port on the OmniConverter is used to daisy-chain the fiber to the next location, where an OmniConverter media converter with one fiber port terminates the fiber. Up to 100 watts can be delivered to each Powered Device.



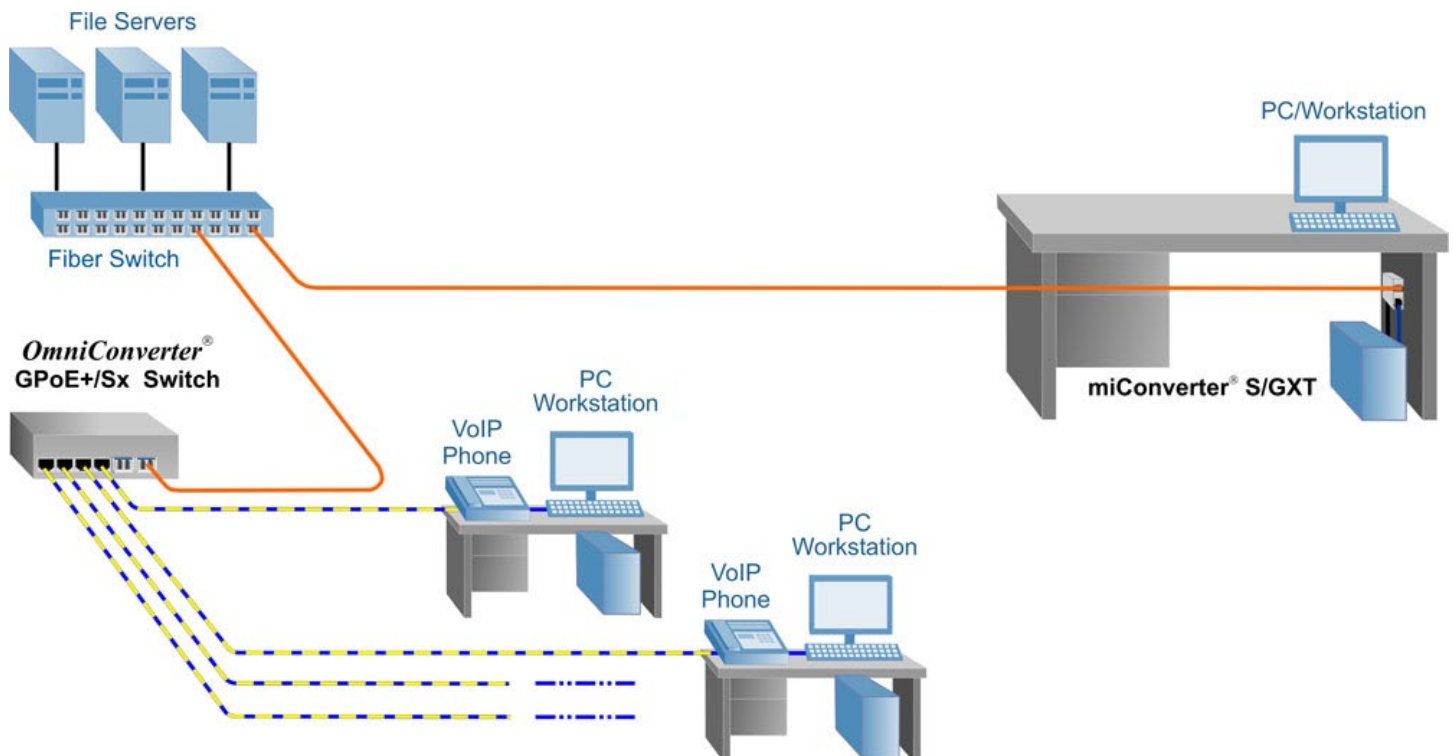
miConverter Applications

Fiber to the Desk

Fiber to the Desktop (FTTD) has become essential in mission-critical environments. Imagine a military operations room where seconds count and security of data is everything. In these environments, one millisecond of downtime or a minor breach would be expensive. That's where Fiber to the Desktop (FTTD) saves the day.

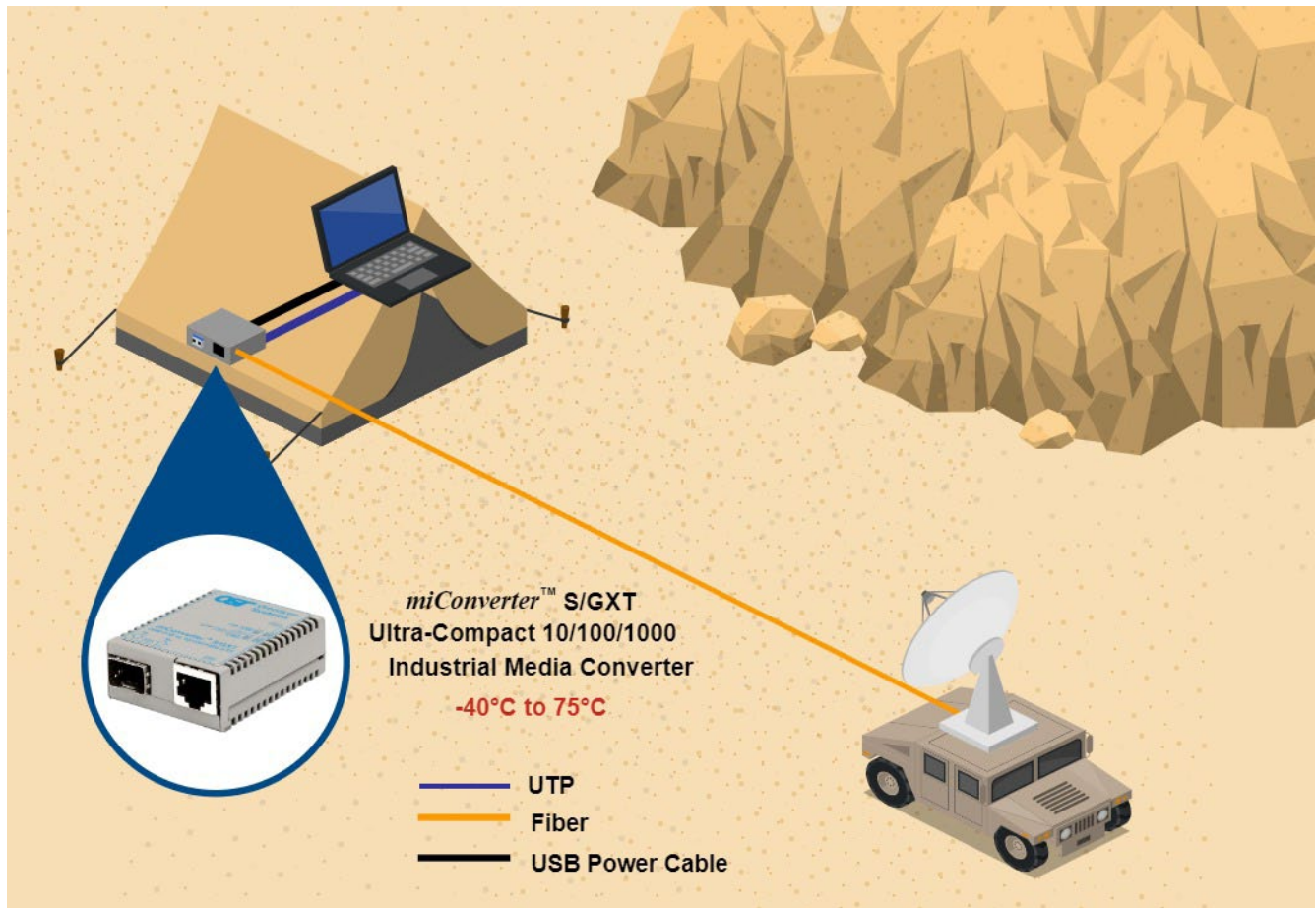
With rising bandwidth demands, increased cyber threats, and stricter compliance standards, traditional copper cabling struggles to keep up. Organizations worldwide are turning to FTTD to deliver secure, high-speed, and interference-free connectivity directly to the workstation. At Omnitron systems, we've seen this transformation first-hand—especially in government, defense, and enterprise deployments where high-density and high-security requirements are mission-critical.

This example illustrates a fiber-to-the-desk installation in an office environment using a miConverter 18-Module Chassis with 10/100/100 GX/T media converters. Each chassis-based module can be connected across fiber cabling to standalone miConverter GX/T media converters installed at each office desk.



Military Radar Detection Application

Military deployment of radar detection systems in combat zones need to be monitored and control by military personnel at safe distances. This application illustrate the deployment of equipment using fiber optic cabling to maintain a safe distance and copper-to-fiber compact Ethernet media converter for monitoring and control. The temperature hardened miConverter S/GXT gigabit Ethernet media converter is used to provide the fiber extension needed for the deployment.



Tethered Drone Application

A military tethered drone system uses rugged fiber-optic cabling to maintain secure, high-bandwidth communications between the airborne platform and the ground control station. A miConverter S/GXT ultra-compact industrial-temperature media converter is integrated both onboard the drone and at the ground end of the tether, converting copper Ethernet to fiber for resilient, EMI-immune data links. This ensures continuous real-time video, sensor, and telemetry transmission while supporting long-duration flight, enhanced security, and reliable operation in extreme environments.



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