



Innovating Wireless IP Backhaul
6-40 Ghz

TrangoLINK Giga Series™

*Licensed Microwave
Split & All-Outdoor Systems
Industry Leading Performance & Features*

Fixed Wireless / Mobile Backhaul / Enterprise

Complete Solutions

Why TrangoLINK Giga™ Series?

- Unmatched system gain delivers robust link performance with greater distances, higher link reliability and smaller antennas
- Complete frequency coverage 6-40 GHz for all licensed microwave products including split systems and all outdoor units
- Multiple Native IP and TDM ports for fiber, STM1, OC3 and GigE supports seamless migration from TDM to packet based traffic
- Error-free hitless link protection (1+1 Hot Standby built-in) for fail-safe operation
- Hitless ACM (Adaptive Coding & Modulation)
- Pre-shipping link configuration to customer specification ensures quick and easy setup
- Complete line of accessories including antennas, combiners, power supplies and installation hardware.

Industry Leading System Gain

Trango's receive sensitivity combined with best in class transmitter power output yields up to 10 dB more system gain than competing products. The result is higher link reliability, longer link distances and smaller antennas. The chart below shows examples of system gain for different frequencies.

<i>Band / Channel Size / Modulation</i>	<i>TX Power</i>	<i>RX Sens</i>	<i>System Gain</i>
6 GHz / 10 MHz / QPSK	30 dBm	-92.2 dBm	122.2 dB
6 GHz / 30 MHz / QAM256	24 dBm	-68.6 dBm	92.6 dB
18 GHz / 7 MHz / QPSK	25 dBm	-93.9 dBm	118.9 dB
18 GHz / 56 MHz / QAM256	19 dBm	-65.8 dBm	84.8 dB

Error-free Hitless Link Reliability

All Giga Series products utilize Adaptive Coding & Modulation (ACM), which automatically changes the modulation during channel degradation events such as rain or signal fading. Each transition to a lower or higher modulation is done without dropping any Ethernet or TDM traffic and transition thresholds can be configured by the operator. When combined with the Quality of Service features of the Giga series, the most critical traffic is unaffected even in severe fading conditions, increasing overall link up-time.

The GigaPro series adds full hitless link protection for 1+1 hot standby, space or frequency diversity, due to the baseband switching technique unique to the GigaPro product.

Carrier Infrastructure

LTE and mobile network operators require high capacity backhaul solutions that can provide effortless migration from the TDM network infrastructure that exists today to the high capacity native-IP architecture required for next generation service delivery. The TrangoLINK ApexPlus™ all-outdoor or GigaPlus™ split systems provide Ethernet connectivity to the edge, both with native T1/E1 built in for synchronization or legacy TDM transport. The TrangoLINK GigaPro™ split-mount system is perfectly suited for aggregation with native support for up to 750 Mbps Ethernet and up to 32 T1/E1 and 2 STM-1/OC3 circuits.

Private / Enterprise Networks

Private and Enterprise Networks using Trango Giga series licensed microwave systems can realize significant cost savings in recurring costs over traditional leased lines while simultaneously increasing the capacity of their LAN/WAN.

All Giga series products feature guaranteed throughput and ultra-low latency to support video, voice and data traffic. Coupled with the most configurations for improving link reliability, the TrangoLINK™ line leads the industry with the most flexible and scalable options.

Fixed Wireless Networks

Trango Systems' Giga series microwave backhaul solutions are ideal for fixed wireless service providers and wireless ISPs. Upgrading legacy license-exempt products to the highly scalable Giga series of licensed products will ensure a future proof network that can allow higher capacity SLAs and eliminates concern about spectrum availability for critical network segments. Operators can choose between TrangoLINK GigaPlus™, TrangoLINK GigaPro™ split-mount platforms, or TrangoLINK ApexPlus™ all-in-one outdoor platform.

TrangoLINK Giga™ Series

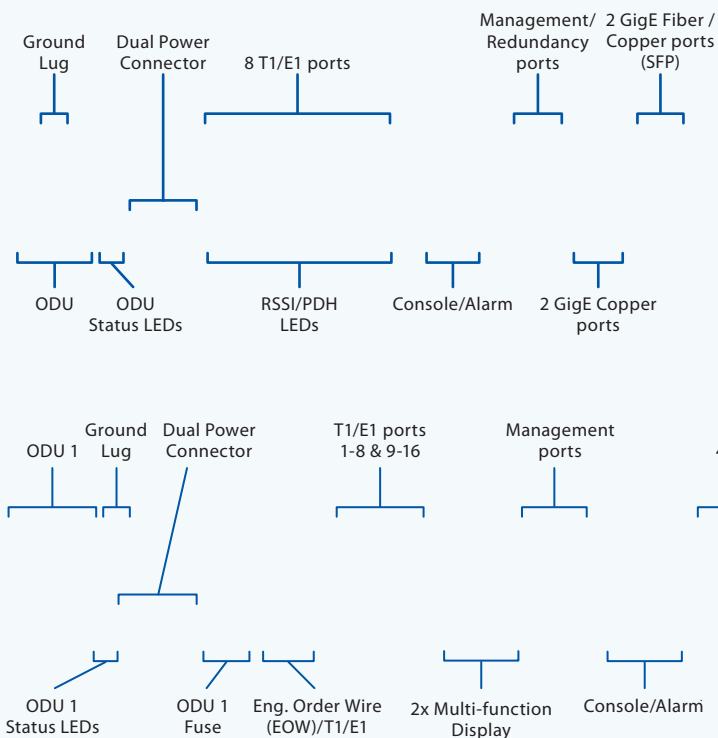
Giga Series Highlights

Feature	TrangoLINK ApexPlus™	TrangoLINK GigaPlus™	TrangoLINK GigaPro™
Architecture	All-Outdoor	Split	Split
Capacity Raw L2 (Mbps Full Duplex) 1518 byte frame	372.5 Mbps	372.5 Mbps	745 Mbps
Capacity Raw L2 (Mbps Full Duplex) 9600 byte frame	375 Mbps	375 Mbps	750 Mbps
Capacity Raw L1 (Mbps Full Duplex) 64 byte frame	413 Mbps	413 Mbps	823 Mbps
GigE Copper	2	4	6
GigE Fiber	1	2	2
STM-1/OC3			2
T1/E1	1	8	32
1+1 Hot Standby	●	●	●
1+1 Hitless Space/Frequency Diversity			●
2+0 Link Aggregation			●

TrangoLINK GigaPro™

Dual Modem, IP & SDH/PDH Native

Dual modem, 1U rack mount design, split-mount system enables up to 750 Mbps full duplex total Ethernet and TDM capacity. Designed with speed and reliability in mind the GigaPro supports hitless 1+1, Space Diversity, Frequency Diversity and East/West configurations. 4 GigE copper ports and 2 flexible SFP slots for GigE/STM-1/OC3 fiber or additional GigE copper connectivity. The GigaPro also supports up to 32 T1/E1 ports natively, no pseudo-wire required and allows bandwidth to be reclaimed after migration to full IP infrastructure.



TrangoLINK GigaPlus™

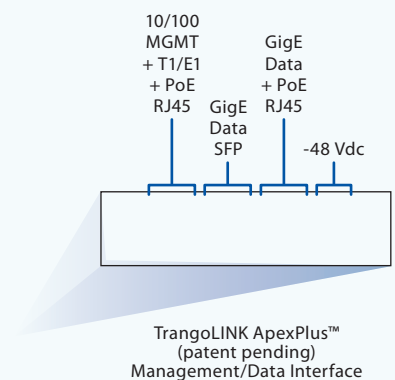
Split Mount, IP & TDM Native

Compact, half-rack space design, split-mount system enables up to 375 Mbps of full duplex total Ethernet and TDM capacity. With support for 1+1 Hot Standby, the GigaPlus is built with reliability in mind and leaves no single point of failure. The TrangoLINK GigaPlus™ features hitless ACM and 8 T1/E1 ports for easy transition to microwave today and full IP architecture tomorrow. The GigaPlus features two copper GigE ports and two flexible SFP slots for fiber or additional copper connectivity.

TrangoLINK ApexPlus™

All-in-One, IP Native

All outdoor unit with up to 375 Mbps full duplex total Ethernet capacity and 1+1 hot standby support. The unique design can be powered over Ethernet with the Trango PoE-GigE-48 or direct using -48 Volts. Both copper and Fiber interfaces are available. Perfect for locations where the ODU is on a building with limited or no rack space for an IDU. One native T1/E1 port is available for voice or synchronization.



Scalable • Fast • Reliable



Trango Systems Support

We are committed to ensuring successful installation and operation of every Trango Systems link deployed around the globe. Our trained staff of microwave engineering professionals are available to provide pre- and post-sales consulting. Support services include personalized technical support via telephone and e-mail, path profile and radio planning services utilizing sophisticated RF planning tools, as well as in-house technical training and certification programs. Trango Systems offers extensive online resources in the form of technical manuals, white papers and case studies. We offer extended warranties, hot swap and sparing programs. On-site support and training services available.

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Note: Legal regulations for specific frequencies vary from region to region. Users are responsible for complying with their region's regulations.
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