TROPOS networks

Metro-Scale Mesh Networking Defined™

5210 Outdoor MetroMesh™ Router

FEATURES

MetroMesh OS

- Patented, purpose-built layer 3 mesh routing intelligence
- Predictive Wireless Routing Protocol for optimized client-server throughput
- Ability to run multiple virtual networks on a single wireless mesh infrastructure
- Auto-discovery and auto-configuration on power-up
- Continuous, real-time adjustment of optimum data paths
- Redundant, self-healing network architecture
- Session-persistent roaming

Secure Management

- User-defined traffic filters
- 802.1x/WPA
- MAC address access control lists
- AES encryption of wireless routing
- Full VPN compatibility
- Secure local and remote configuration via HTTPS
- SNMP-based element management system

Platform

- High-performance 54 Mbps Wi-Fi
- Unrivaled link budget for superior RF propagation
- Outdoor optimized with integrated high power radio

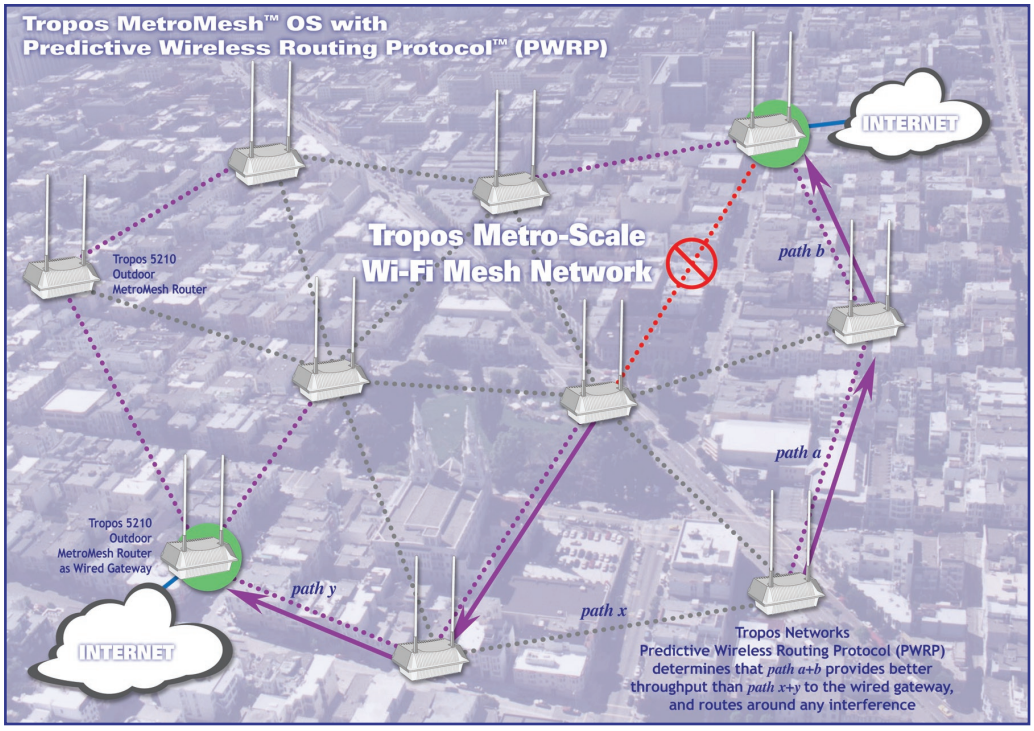
The patented Tropos™ MetroMesh™ architecture combines the industry's most sophisticated mesh routing intelligence, designed from the ground up to optimize throughput in a dynamic metro-scale Wi-Fi mesh environment, with carrier-grade centralized element management and a purpose-built hardware platform with peerless Wi-Fi link budgets. The Tropos Networks™ MetroMesh architecture leverages Wi-Fi to enable metro-scale mesh deployments that were previously difficult or impossible. The result: the fastest, lowest-cost and simplest wireless broadband solution available anywhere.

The MetroMesh OS, including the Tropos Predictive Wireless Routing Protocol (PWRP™), is the industry's most scalable mesh routing algorithm. The Tropos 5210 outdoor MetroMesh router, utilizing the embedded PWRP, creates a self-organizing and self-healing wireless mesh, and intelligently selects the most optimum data path to the wired network. Because the MetroMesh OS and PWRP never require more than 5% of available bandwidth, networks can be easily scaled to many thousand nodes without any client throughput or network capacity degradation.

The MetroMesh architecture is key to maximizing network economics, as the software, management,and hardware combine to enable the operation of multiple independent networks on a single metro-scale Wi-Fi mesh infrastructure. Individual user communities can operate independently on the MetroMesh, segregating information access, billing, and access levels.

Tropos MetroMesh routers require only power and can be deployed anywhere it is available. Each MetroMesh router provides wireless connectivity to standard 802.11b/g clients and extends the coverage area of the metro-scale Wi-Fi network.

The ruggedized and weatherized Tropos 5210 is NRTL certified for outdoor installation. It can be mounted on external structures such as buildings or lampposts to quickly implement citywide applications such as police data communications or public wireless access.



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TECHNICAL SPECIFICATIONS

Wireless
- IEEE 802.11b/g
- Frequency band: 2.4-2.483 GHz
- Modulation: 802.11g - OFDM (64-QAM, 16-QAM, QPSK, BPSK)
  802.11b - DSSS (DBPSK, DQPSK, CCK)
- TX Power: Standard-Power 14dBm-24dBm (EIRP) factory-set in 1dB units
  High-Power 26dBm-36dBm (EIRP) factory-set in 1dB units
- 7.4dBi Omnidirectional antennas
- Media Access Protocol: CSMA/CA with ACK
- RX Sensitivity:

-100dBm @ 1 Mbps	-92dBm @ 12 Mbps
-95dBm @ 2 Mbps	-89dBm @ 18 Mbps
-93dBm @ 5.5 Mbps	-86dBm @ 24 Mbps
-91dBm @ 11 Mbps	-83dBm @ 36 Mbps
-94dBm @ 6 Mbps	-78dBm @ 48 Mbps
-93dBm @ 9 Mbps	-76dBm @ 54 Mbps

- Transmit and Receive diversity

Networking
- TCP and VPN session persistent roaming
- Full 802.11b/g client compatibility
- NAT support
- Layer 2 and Layer 3 support
- DHCP Server and Relay
- Sub-interface support
- Ethernet port

Management
- HTTPS to on-board configuration management tools
- Secure local and remote configuration via HTTPS
- SNMP V2c
- Tropos MIB
- Browser-based management tool
- Simple configuration save and restore
- Network & client monitoring and statistical capture features

Security
- WPA - Wi-Fi Protected Access (64, 128, 152-WEP with TKIP)
- Multiple ESSIDs
- Full VPN compatibility
- VPN filtering—rejects non-VPN traffic
- MAC address access control lists
- HTTPS only to on-board management tools
- AES encryption of wireless routing
- Packet filtering
- ESSID suppression

Environmental Specifications
- Operating temperature range: -40˚C to 55˚C
- Storage temperature range: -40˚C to 85˚C
- Weather rating: IP67 weathertight
- Wind survivability: >165 mph
- Wind loading (165 mph): <1024 Newtons
- MIL-STD-810F 509.4 Salt Fog rust resistance compliant
- Shock & vibration: ETSI 300-19-2-4 spec T41.E class 4M3
- Transportation: ISTA 2A

Optional Battery Back-Up
- Factory Installed Li-Ion battery
- Back-up power 4-12 hours typical

Optional Accessories
- Power Cables
  - Street light NEMA photo-electric control power tap 90-480 V AC, 2 wire 4 ft. power cable
  - Street light NEMA photo-electric control power tap 90-480 V AC, 2 wire 20 ft. power cable
  - Electrical power cord, US/Canada 120 VAC, 15 A, 3 prong 6 ft. or 30 ft.
- CAT5 building entrance data protection; network protection unit

Package Contents
- Tropos 5210
- Mounting bracket and accessories
- Hardware Installation and Quick StartGuides

Approvals
- FCC CFR 47 Part 15, Class B
- Industry Canada RSS 210
- Taiwan DGT LP0001/LP0002
- VCCI class B
- ARIB STD-T66
- EN 301 489-17
- EN 300 328

- EN 60 950
- IEC 950
- UL 60950-1
- CSA 22.2 No. 950

- UL 579/IEC 60529 IP67 rated for outdoor use
- UL 1449/IEC 60 664-1

- CE!

Hardware Specifications
- Autosensing 10/100BaseT Ethernet
- Power input:
  - 90-480VAC 50/60Hz single and split-phase ANSI/IEEE C62.41 category C3 integrated branch circuit protection
  - AC power consumption: 18 W typical
- Power over Ethernet power sourcing capability: 12Vdc @ 14W, 24Vdc @12W, 48Vdc @ 10W output
- Power-on and network status lamp: Green/Red
- Dimensions (w/o mounting brackets or antennas): 13.00 in (33.02 cm) wide x 8.00 in (20.32 cm) deep x 5.3 in (13.50 cm) high
- Weight: 14 lbs (6.40 kg) max., with mounting brackets,

Protection Circuits
- Antenna Protection: ≤ 0.5µJ for 6kV/3kA @ 8/20µS Waveform
- Electrical Protection:
  - ANSI/IEEE C62.41, UL 1449-2nd ed., 10kA @ 8/20 µS Wave form, 36kA per phase, L-L, L-N, L-PE
  - EN61000-4-5 Level 4 AC Surge Immunity
  - EN61000-4-4 Level 4 Electrical Fast Transient Burst Immunity
  - EN61000-4-3 EMC Field Immunity
- Data Protection:
  - EN61000-4-2 Level 4 ESD Immunity

Warranty
- One (1) year on parts and labor; return to point of purchase
- *Optional* standard and premium support packages available

Ordering Information:
Part Number: 52102501
Tropos 5210 mesh router, Japan TX; two 7.4 dBi omni antennas; bracketry
Part Number: 52102601
Tropos 5210 mesh router, Japan TX; battery backup; two 7.4 dBi omni antennas; bracketry
Part Number: 52102504
Tropos 5210 mesh router, ETSI/EU TX; two 7.4 dBi omni antennas; bracketry
Part Number: 52102604
Tropos 5210 mesh router, ETSI/EU TX; battery backup; two 7.4 dBi omni antennas; bracketry
Part Number: 52103000
Tropos 5210 mesh router, high power; two 7.4 dBi omni antennas; bracketry
Part Number: 52103100
Tropos 5210 mesh router, high power; battery backup; two 7.4 dBi omni antennas; bracketry
For additional configuration options please contact your Tropos Representative

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