Tropos 6420-XA

Outdoor mesh router for extreme applications

Tropos 6420-XA

The Tropos 6420-XA outdoor mesh router delivers high reliability and performance in extreme application environments.

Tropos 6420-XA outdoor mesh routers for extreme application provide superior reliability by accessing 653 MHz of RF spectrum (463 MHz in ETSI) using automatic interference avoidance capabilities of Tropos Mesh OS. The Tropos 6420-XA uses the 802.11a/b/g/n wireless standards to deliver 600 Mbps total wireless data rate, 300 Mbps at 2.4 GHz and another 300 Mbps at 5 GHz.

Wireless
- IEEE 802.11b/g/n radio (Tropos 6410-XA and 6420-XA)
  - Modulation: 802.11g/n - OFDM (64-QAM, 16-QAM, QPSK, BPSK); 802.11b - DSSS (DBPSK, DQPSK, CCK)
  - Media access protocol: CSMA/CA with ACK
  - TX power (dBm EIRP)

Band (MHz)	FCC	ETSI	Brazil	ASEAN
2400-2473	21-36	N/A	N/A	N/A
2400-2483	N/A	5-20	11-26	5-20

assumes use of 7.4 dBi antennas

  - 2x2 MIMO-antenna system: 2-TX x 2-RX
  - 7.4 dBi removable omnidirectional antennas
  - RX sensitivity:
    - 98 dBm @ 1 Mbps
    - 96 dBm @ 6 Mbps

- IEEE 802.11a/n radio
  - Modulation: 802.11a/n - OFDM (64-QAM, 16-QAM, QPSK, BPSK)
  - Media access protocol: CSMA/CA with ACK
  - TX power (dBm EIRP)

Band (MHz)	FCC	ETSI	Brazil	ASEAN
5150-5250	21-36	N/A	N/A	N/A
5250-5350	15-30	N/A	N/A	N/A
5470-5725	15-30	15-30	N/A	15-30
5725-5850	21-36	21-36	15-30	15-30

assumes use of 8 dBi antennas

  - 2x2 MIMO-antenna system: 2-TX x 2-RX
  - 8 dBi removable omnidirectional antennas
  - RX sensitivity:
    - 95 dBm @ 6 Mbps
- Integrated GPS receiver

Interfaces
- 802.11a/b/g/n wireless, 802.11a, 802.11n client compatibility
- One IEEE 802.3u autosensing 10/100/1000BASE-T Ethernet port
- One IEEE 802.3u autosensing 10/100BASE-T Ethernet port or one serial port, RS-232 and/or RS-485
- Protocols: DNP3, Modbus (RTU), Modbus (ASCII), raw (serial pass-through) support

- IPv4, IPv6-ready
- BGP
- 802.1q VLAN support (ESSID- and IP-based tagging)
- Support for static and dynamic addressing for wireless and wired clients
- Session-persistent mobility across subnets
- IP multicast forwarding, IGMPv3; IGMP Proxy
- Automatic rate, power, channel and band control
- IEC 61850 GOOSE messaging
- Reliable broadcast
- Network address translation (NAT) support for wired clients

Quality of service
- 802.11e WMM
- 802.1p/q with four queues per VLAN and ESSID
- 802.1p and DSCP
- VoIP and VoWiFi support

Management
- Local and remote management tools via HTTPS
- Identity-based authentication (four levels)
- Configuration save and restore
- Over the air software upgrades
- SNMP (standard MIBs)
- Wireless, network and client monitoring and statistics
- Infrared (IR) port
- Wireless rescue
- Supros carrier-class NMS support

Security
- IPsec VPNs with tunnels to wired client interfaces using AES
- Authentication: WPA, WPA2, 802.11i, RADIUS, 802.1x (includes EAP-TLS, EAP-TTLS, EAP-SIM, PEAP)
- Encryption: open, WEP, TKIP, AES-CCM
- AES encryption of mesh and control traffic
- Technical controls required to achieve NERC CIP
- v5 compliance
- Multiple BSSIDs & ESSIDs (ESSID suppression)
- Integrated firewall
  - Packet filtering on TCP/UDP port, protocol,
  - SA, DA
  - Peer-to-peer blocking
  - Client access control lists
- Evil twin detection and reporting
- Denial of service (DoS) attack detection and reporting
- Jamming attack detection and reporting

Environmental specifications
- Operating temperature range: -40°C to 75°C
- Storage temperature range: -40°C to 85°C
- Weather rating: IP67: UL579/IEC 60529
- Wind survivability: >200 mph
- Wind loading (200 mph): <330 Newtons
- ASTM B117 salt, fog, rust resistance compliant
- Shock & vibration: ETSI 300-19-2-4 spec T4.1E class 4M3
- Transportation: ISTA 2A

Power
- 802.3at on the 10/100/1000BASE-T port
- 12-48 VDC on the 10/100BASE-T port
- 120/240 VAC with optional, external accessory (optional external battery backup available)
- Power consumption: 4 W typical
- Power-on and network status LEDs

Physical
- Dimensions without mounting brackets
  - withot antennas: 9.25" W (23.5 cm) x 7.5" D (19.1 cm) x 3.75" H (9.5 cm)
  - without mounting brackets, with antennas: 21.25" H (54 cm) - 2.4 GHZ antenna 16.63 H (42.2 cm) - 5 GHz antenna
- Weight: 7 lbs (3.2 kg) without mounting brackets, with antennas

Wireless approvals
- FCC CFR 47 Part 15
- Industry Canada RSS 210
- EN 301 489-17
- EN 300 328
- EN 301 893
- EN 302 502

Safety approvals
- EN 60950
- IEC 950
- UL 60950-1
- CSA 22.2 No. 60950-1
- UL 579/IEC 60529 IP67 rated for outdoor use
- UL 1449/IEC 60664-1
- CE
- IEEE 1613

Hazardous environment certification

Regulatory domain	Specification
United States (Class I Division 2 Groups A, B, C and D)	ANSI/ISA-12.12.01-2015
ATEX Zone 2	EN 60079-0:2012+A11:2013 EN 60079-7:2015/A1:2018 EN 60079-11:2012
Canada	CAN/CSA C22.2 NO. 213-15

Protection

• Antenna protection integrated

• Electrical protection:

  - EN61000-4-4 Level 2 electrical fast transient burst immunity

  - EN61000-4-3 Level 2 EMC field immunity

  - EN61000-4-2 Level 2 (contact), Level 3 (air)

  - ESD immunity

Warranty

• Five-year hardware warranty

• Software and hardware maintenance plans available

Click the link to find out more information about our wireless mesh routers.

1KHA-001371-SEN-1000