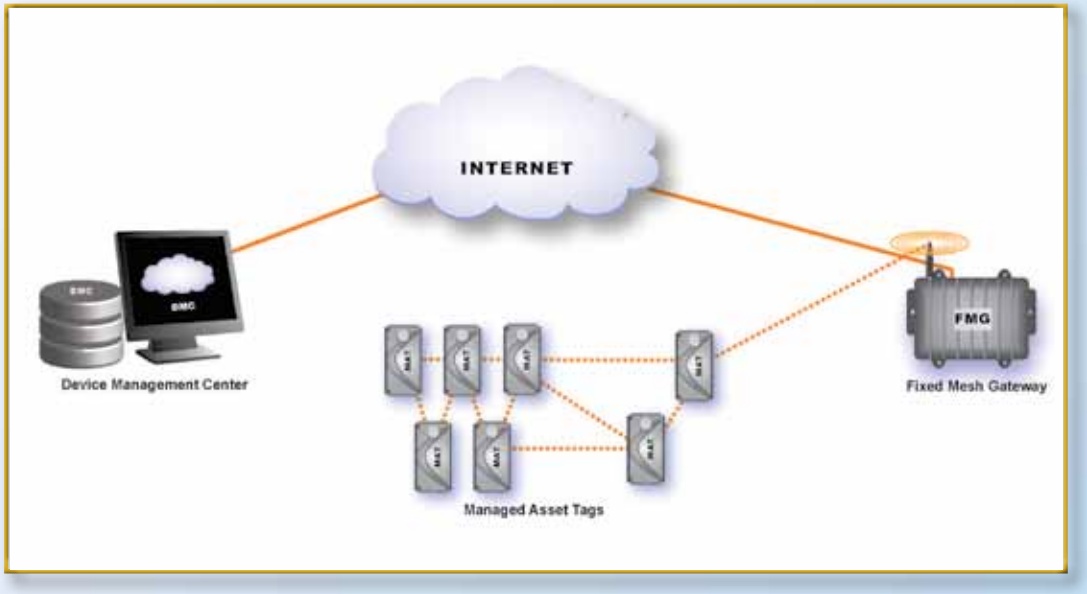
# FIXED MESH GATEWAY (FMG-3)

## Next Generation Wireless Mesh Technology

Whether operating across the United States or shipping around the world, Cubic Global Tracking Solutions will ensure your valuable assets are safe and secure across the entire enterprise through continuous monitoring and near-real time reporting. Our Mesh Asset Tag (MAT) sensors constantly monitor the position, status and security of assets to provide logistics intelligence, intrusion detection, and situational awareness.

Cubic Global Tracking Solutions Fixed Mesh Gateway (FMG-3) is the mesh network's primary path to the Internet. It wirelessly communicates with our Mesh Asset Tags using Cubic Global Tracking Solutions mesh protocol and forwards secure data from those tags through the Internet to the Device Management Center (DMC), where the data is decrypted and stored indefinitely.




Cubic's FMG-3 is the mesh network's fastest, lowest-cost path to the Internet. The FMG-3 contains a mesh radio and a hardwired 10/100 Ethernet connection to the Internet. These allow the FMG-3 to receive data from Mesh Asset Tags and forward it to the Device Management Center, giving the end-user visibility of the state of the Mesh Tags and the assets they monitor. The FMG-3 is designed for unattended operation; it requires only an Internet connection and power, both provided through its Ethernet cable.

## Key Benefits

- Provides Cubic Global Tracking Solutions mesh network authorization and security
- Portal for mesh network configuration and management
- Bidirectional data interface between mesh network and DMC
- Back haul via wired or wireless Internet
- Integration into management systems providing on-route and business process information

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# FIXED MESH GATEWAY (FMG-3)

## Physical

- Dimensions ..... 200 x 140 x 43 mm
  7.9 x 5.5 x 1.7 in
- Weight ..... 1.6 kg (55 oz)
- Color ..... White (RAL7035)
- Connectors ..... Ethernet: RJ45/IP67
  Serial: RJ45/IP67
  Antenna: Rev N Type

## Environmental

- Temperature ..... 0 C to +50 C
- Humidity ..... 100% @ 40 C
- Vibration ..... SAE J1455 2006
  6 G RMS all axis
- Shock (survival) ..... 1 meter drop 6-sided
- Ingress Protection Rating ..... IP67

## Mesh Radio

- Radio Standard ..... 802.15.4 Phy only
- Transmit ..... 2402 MHz – 2480 MHz
- Receive ..... 2402 MHz – 2480 MHz
- EIRP (w/standard antenna)..... 10 mW
- Sensitivity ..... -98 dBm
- Modulation ..... DSSS
- DSSS Chip Rate ..... 2 Mchips/sec
- Data Rate ..... 250 kbps
- Channels ..... 16
- Channel Bandwidth ..... 3 MHz
- Range
  - Device-Device ..... 200 m (90° to mount)
  - Device-Device ..... 100 m (±70°)
  - Device-Device ..... 20 m (long axis)

## Interfaces (Physical)

- Ethernet ..... RJ45 10/100Base-T
- Serial Console ..... Cisco console interface

## Antenna

- Connector ..... Reverse N-Type
- Type ..... 6 dBi center-fed dipole
- Polarization ..... Vertical

## Power (External Only)

- Passive Power Over Ethernet (Not 802.3af)
- 7-18 VDC at 700 mA max

## Sensors

- Temperature, on-chip ..... -40 C - +85 C ±10

## Indicators

- LED ..... Red/Green
- Buzzer ..... 2.3 kHz

## Functional

- Cubic GTS mesh network ..... Full routing node
  4 network speeds
- Tag population ..... 1,000 to 10,000 tags
- Encryption ..... AES-128/CCM
- Data Storage ..... 4 Gbytes
- Reporting ..... Timed, events, network
  topology changes
- Position ..... Timed or event driven
- Upgrade ..... Remotely via Ethernet
- Operating System ..... Red Hat Enterprise
  Linux v 5.3

## Certifications

- FCC Part 15B and 15C ID: pending
- IC: pending
- IP-67/NEMA-4
- HERO (test complete/pending report)
- HERF (test complete/pending report)
- HERP (test complete/pending report)

## Accessories

- 802.3af (POE) adapter ..... Ubiquiti Instant 802.3AF

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