

The Fluidmesh® 2200 Duo is the only wireless product designed and manufactured specifically for security, video-surveillance, and mission-critical condition monitoring applications. The Fluidmesh 2200 Duo is able to transmit the video streams coming from the cameras directly attached to it and to dynamically route data packets coming from other Fluidmesh units through the optimal network path.

### Reliability and flexibility

The wireless mesh architecture enables the creation of reliable and redundant networks, where every Fluidmesh unit can route packets around physical obstacles, sources of interference, or low-quality links.

### Simultaneous transmission with two quadri-band radios

The Fluidmesh 2200 Duo features two quadri-band radios with N-Female connectors that can operate at 2.4 GHz, 4.9 GHz, and 5.1-5.8 GHz and modulate up to 108 Mbps. The dual-radio configuration can double the available bandwidth and create 100% full-duplex wireless links.

### FluidMAX™

The Fluidmesh 2200 Duo supports the patent-pending FluidMAX™ technology and can be used to create Point-to-Point, Point-to-Multipoint, and Mesh architectures. In developing FluidMAX, Fluidmesh has embraced the WiMax Point-to-Multipoint architecture and enabled its wireless units to operate with a centralized or a distributed Medium Access Control protocol depending on the network layout.

### EasyMesh™ Platform

The Fluidmesh 2200 Duo includes the EasyMesh™ platform. The EasyMesh technology allows the user to set the same range of private IP addresses across the entire network. This automatic tunneling transparently hides the Fluidmesh Layer 3 network to the connected devices allowing the user to set up the system in Layer 2, reducing configuration and deployment time.

The Fluidmesh 2200 Duo also includes the FMQuadro™ web interface which allows the user to configure, monitor, and troubleshoot the wireless network in real time without the need of additional software. The FMQuadro web-based user interface provides real time throughput analysis and is capable of automatically reporting network congestion scenarios through a fully interactive network monitoring system.

### MPEG4, M-JPEG, and H.264 optimization and multicast support

Every Fluidmesh 2200 Duo automatically detects the type of video packets (eg. MPEG4 vs. M-JPEG vs. H.264, I-frame vs. P-frame) and the transport protocol (e.g., UDP vs. TCP) in use and optimizes the wireless transmission based on the packet type. Moreover, video packets are prioritized over other packets in order to minimize delays. Fluidmesh technology supports multicast transmission, greatly reducing the required bandwidth for every camera.

### AES-128 Encryption Support (FIPS-197 Compliant)

The Fluidmesh 2200 Duo includes support for 128 bit AES Encryption at the link-level which can be used for FIPS-197 compliance. Because AES is implemented in hardware, there is no loss in terms of performance when AES is enabled.

### IP68/NEMA6P submersible outdoor enclosure

The Fluidmesh 2200 Duo is designed and manufactured for applications requiring top environmental and physical reliability. The outdoor enclosure is completely submersible and complies with IP68 and NEMA6P standards. The Fluidmesh 2200 Duo can be installed in locations subject to extreme environmental conditions such as seaports, refineries, or industrial plants.

## FEATURES

### WIRELESS

- + Low latency and high bandwidth
- + Double quadri band radio on 2.4 and 5 GHz
- + Full-duplex links
- + Video packets prioritization
- + MPEG4, M-JPEG, and H.264 optimization

### SYSTEM

- + Self-healing network
- + Web-based management
- + IP68/NEMA6P submersible enclosure
- + Full compatibility with any IP camera or video-server

### SECURITY

- + Proprietary communication protocol
- + VPN support
- + Cryptographic support (SSL, HTTPS)

## Supported Architectures



Point-to-Point



Point-to-Multipoint

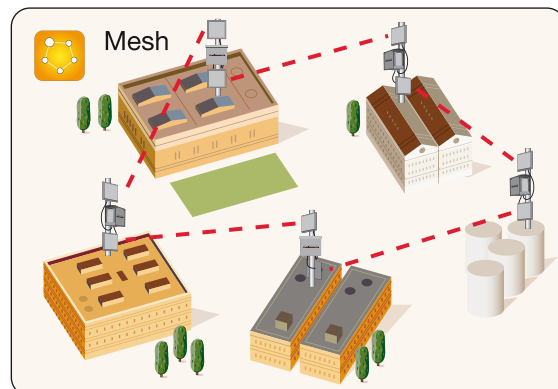
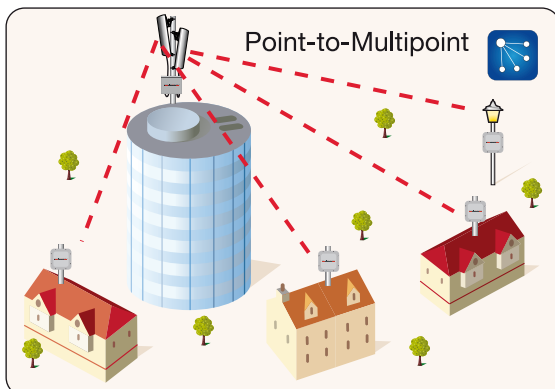


Mesh



Mixed

## Most Common Architectures





## Technical Specifications

### RADIO

- Frequency Bands: 5.17 - 5.850 GHz (US, FCC)  
5.470 - 5.725 (Europe, ETSI)  
2.4 - 2.462 GHz (US, FCC)  
2.4 - 2.472 GHz (Europe, ETSI)  
4.940 - 4.990 GHz (US, FCC)
- Non-overlapping channels: 29 (US, FCC)  
22 (Europe, ETSI)
- Modulation: OFDM (BPSK, QPSK, 16-QAM, 64-QAM)
- Modulation speed: Up to 108 Mbps per radio
- TX Power: 13-18 dBm, depending on configuration and regulatory constraints
- RX Sensitivity 2.4GHz: -90dB@6Mbps, -74dB@54Mbps
- RX Sensitivity 4.9GHz: -88dB@6Mbps, -71dB@54Mbps
- RX Sensitivity 5GHz: -88dB@6Mbps, -71dB@54Mbps
- Antenna connectors: Two (2) N-Female

### ELECTRICAL

- Power input AC/DC: 12/24 V either AC or DC (90/240V 50/60 Hz AC optional)
- Power consumption: Max 11W@24V (transceiver only), Max 12.5W@12V (transceiver only), Max 33W (with video-server, Ethernet switch, etc.)

### ENVIRONMENTAL

- Operating Temperature: -25°C (-13°F) to +70°C (158°F)
- Extended O.T. (optional): -50°C (-58°F) to +70°C (158°F)
- Storage Temperature: -30°C (-22°F) to +70°C (158°F)
- Humidity: 95% non-condensing
- Weather Rating: IP68, NEMA 6P
- Wind Survivability: >165 mph
- Wind Loading: <1024 N
- Salt/Fog/Rust Resistance: MIL-STD-810F 509.4
- Shock & Vibration: ETSI 300-19-2-4 spec. T41.E

### PHYSICAL

- Dimensions (inches/mm): 8/203 (h) x 8/203(w) x 4/102(d)
- Weight (lb/Kg): 7.0/3.2
- Enclosure material: Polycarbonate
- External Status LED

### NETWORK

- Interfaces: Two (2) Internal Ethernet 10/100BaseT autosensing, RJ45
- Protocols: UDP, TCP, IP, RTP, RTCP, RTSP, HTTP, HTTPS, ICMP, ARP
- Medium Access Control (MAC) Protocols: Centralized Polling-based, Distributed CSMA/CA-based
- FMQuadro Web-based interface for remote management
- Multicast support
- UPnP support
- SNMP support

### SECURITY

- Authenticated routing
- Full VPN compatibility
- Full compatibility with all encryption and authentication standards (AES, 3DES, RSA, HTTPS, SSL, etc.)
- AES-128 (FIPS-197 Compliant) Wireless Link Encryption Support (optional)

### APPROVALS

- FCC CFR 47 Part 15, class B
- Industry Canada RSS 210
- CE!
- C-Tick
- IP68/NEMA6P enclosure, rated for outdoor use

### SUPPLIED ACCESSORIES

- Video-server Internal Mounting Kit
- Wall-mount brackets
- Pole Mounting Kit (i.e. Pole Mounting Kit min O.D. 2 in.)
- Fluidmesh SunShield

### OPTIONAL ACCESSORIES

- 4.9 GHz Software Plug-in
- AES-128 (FIPS-197 Compliant) Encryption Software Plug-in
- Directional and omni-directional antennas at 2.4 GHz, 4.9 GHz, and 5.1-5.8 GHz
- Low loss 400 series antenna cable assemblies with N-male connectors
- High Voltage AC Power Supply: 90/240 V 50/60 Hz single and split phase ANSI/IEEE C62.41 category C3 integrated branch protection
- Extreme Cold Heating Kit: max -50°C (-58°F)

### WARRANTY

- Two (2) years on parts and labor

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